Department of Defense

DIRECTIVE

NUMBER 5105.45

March 9, 2000

DA&M

SUBJECT: Uniformed Services University of the Health Sciences (USUHS)

(a) DoD Directive 5105.45, subject as above, May 17, 1999 (hereby canceled)
(b) Chapter 104 et seq. of title 10, United States Code
(c) Secretary of Defense Report, "Defense Reform Initiative," November 1997[1]
(d) Program Budget Decision 711R, "Defense Reform Initiative - Office of the Secretary of Defense and the Defense Agencies," December 17, 1997
(e) through (g), see enclosure 1

1. REISSUANCE AND PURPOSE

This Directive reissues reference (a) to:

1.1. Update the mission, policy, organization and management, responsibilities and functions, relationships, and authorities of the USUHS.

1.2. Provide for USUHS governance under reference (b).

1.3. Establish the USUHS Executive Committee, pursuant to the direction of reference (c).

1.4. Designate the Secretary of the Navy as the "DoD Executive Agent" for administrative support of the USUHS, in accordance with reference (d).

1 Availabile at http://www.defenselink.mil/pubs/dodreform/

2. APPLICABILITY

This Directive applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as "the DoD Components").

3. DEFINITIONS

3.1. Academic Affairs. Faculty appointments, promotions and organization, awarding of degrees, curriculum design and implementation, academic requirements for admission and graduation, and related matters vital to the academic well-being of the USUHS.

3.2. Uniformed Services. The Army, the Navy, the Air Force, the Marine Corps, the Coast Guard, the Commissioned Corps of the U.S. Public Health Service, and the Commissioned Corps of the National Oceanic and Atmospheric Administration.

4. MISSION

The USUHS shall:

4.1. Educate and train competent medical personnel qualified to serve the needs of the Uniformed Services through providing the highest quality education programs in the health sciences.

4.2. Place high priority on educating and training personnel to meet the combat and peacetime medical needs of the Armed Forces.

4.3. Grant applicable advanced academic degrees; establish postdoctoral and postgraduate programs, and technological institutes; conduct medical readiness training and continuing education for members of the Uniformed Services in the health professions; and prepare individuals for careers in the health professions in the Uniformed Services.

5. POLICY

It is DoD policy that:

5.1. Consistent with the performance of the DoD mission and with established practices covering academic independence and integrity in the fields of medical and health sciences education, the Department of Defense recognizes the unique role of the USUHS Board of Regents in advising the Secretary of Defense. Consistent with applicable law and accomplishment of the DoD mission, the Assistant Secretary of Defense for Health Affairs (ASD(HA)), the USUHS Executive Committee, and the President of the USUHS shall be guided by the advice of the USUHS Board of Regents on academic affairs.

5.2. USUHS funding shall be within the Defense Health Program.

6. ORGANIZATION AND MANAGEMENT

6.1. The USUHS is a joint entity of the three Military Departments, subject to the overall supervision of the ASD(HA) and the management direction of the USUHS Executive Committee, and shall consist of the following:

6.1.1. A Board of Regents that shall be established and operated, in accordance with 5 U.S.C. Appendix (Federal Advisory Committee Act) (reference (e)), and shall consist of members appointed under Section 2113(a), Chapter 104 of 10 U.S.C. (reference (b)).

6.1.2. A President of the USUHS, who shall be the chief executive officer of the USUHS, and who also is the Dean of the USUHS, as described in reference (b), and who shall report to the ASD(HA), through the USUHS Executive Committee.

6.1.3. A Dean of the F. Edward Hebert School of Medicine, who shall function as the chief academic officer of the F. Edward Hebert School of Medicine and report to the President of the USUHS.

6.1.4. A Dean of the Graduate School of Nursing, who shall function as the chief academic officer of the Graduate School of Nursing and report to the President of the USUHS.

6.1.5. Other subordinate positions and elements as are established by the President of the USUHS within authorized resources.

6.1.6. Students selected under procedures prescribed, in accordance with Chapter 104 of reference (b), and graduate students.

6.2. The USUHS Executive Committee is established to provide the supervision and management of the USUHS, pursuant to the Defense Reform Initiative (reference (c)), and consistent with the direction of the Secretary of Defense to reduce the operational and program management responsibilities of the OSD.

6.2.1. The USUHS Executive Committee shall consist of the Surgeons General of the three Military Departments and shall report to the ASD(HA) on USUHS matters.

6.2.2. A Chair shall be designated from among the membership, as mutually determined by the membership.

6.2.3. The President of the USUHS shall provide an Executive Secretary and associated staff support.

6.2.4. The DoD Executive Agent shall be represented on the USUHS Executive Committee by the Surgeon General of the Navy.

7. RESPONSIBILITIES AND FUNCTIONS

7.1. The Assistant Secretary of Defense for Health Affairs, under the Under Secretary of Defense for Personnel and Readiness, shall:

7.1.1. In accordance with DoD Directive 5136.1 (reference (f)), exercise authority, direction and control over the medical personnel, facilities, programs, funding, and associated resources in the Department of Defense as they relate to the USUHS.

7.1.2. Exercise the authorities over the USUHS vested in the Secretary of Defense by Chapter 104 of 10 U.S.C. (reference (b)), except that the authority to appoint the President of the USUHS is reserved to the Secretary of Defense.

7.1.3. Develop policies and issue policy guidelines to ensure the effective integration of USUHS programs and activities in the DoD Health Program. That includes, but is not limited to, the development of DoD Directives, the issuance of DoD Instructions, and OSD-level participation in the Planning, Programming, and Budgeting System process.

7.1.4. Ensure that the advice of the Board of Regents in matters of academic affairs is considered, in accordance with the policy in section 5.1., above.

7.1.5. Ensure that the Board of Regents shall participate in the governance of the USUHS by advising the Secretary of Defense, through the ASD(HA), on academic affairs and on the administration and management of the USUHS.

7.1.6. Ensure that the President of the USUHS shall:

7.1.6.1. Make certain that educational programs leading to a Doctor of Medicine or other advanced degrees in the health professions meet the standards of applicable and recognized, accrediting, licensing, and certifying Agencies.

7.1.6.2. Carry out those responsibilities and functions pertaining to the supervision and management of University programs, activities, personnel, and resources as the ASD(HA) and Executive Committee prescribe.

7.1.7. Ensure that the Dean of the F. Edward Hebert School of Medicine shall develop and administer policies and procedures on the academic affairs of the F. Edward Hebert School of Medicine.

7.1.8. Ensure that the Dean of the Graduate School of Nursing shall develop and administer policies and procedures on the academic affairs of the Graduate School of Nursing.

7.2. The Secretary of the Navy shall serve as the DoD Executive Agent for administrative support of the USUHS, to include budget, personnel, information, facilities, and other resource responsibilities required for the mission of the USUHS.

7.2.1. Civilian personnel authorizations shall be under the purview of the DoD Executive Agent and civilian employees shall be carried on the rolls of the Department of the Navy.

7.2.2. The USUHS funding and personnel requirements shall not be offset against the Navy Surgeon General budget or work-year allocations.

7.3. The Director, Defense Legal Services Agency, shall provide legal advice and services for the USUHS.

7.4. The USUHS Executive Committee, consistent with the policy guidance of the ASD(HA), shall:

7.4.1. Oversee the operation of the USUHS and provide management direction to the President of the USUHS on the day-to-day operation of the USUHS.

7.4.2. Provide guidance to the President of the USUHS and advice to the ASD(HA) on the annual USUHS program and budget submissions.

7.4.3. Provide advice to the ASD(HA) on health policy matters relating to the USUHS.

8. RELATIONSHIPS

8.1. In carrying out the responsibilities and functions of the chief executive officer of the USUHS, the President of the USUHS shall:

8.1.1. Obtain advice from the USUHS Executive Committee and the Board of Regents, as necessary, to assist the President of the USUHS in performing the President's duties.

8.1.2. Coordinate and exchange information and advice with elements of the OSD and the other DoD Components having collateral or related responsibilities.

8.1.3. Make use of established facilities and services in the Department of Defense and other Government Agencies, when practical, to avoid duplication and achieve maximum efficiency and economy.

8.1.4. Consult and coordinate with other Governmental Agencies and non-Governmental agencies on matters for the mission and programs of the USUHS.

8.2. The Heads of the DoD Components shall coordinate with the ASD(HA) on all matters relating to the mission and programs of the USUHS.

9. AUTHORITIES

The President of the USUHS is specifically delegated the authority to:

9.1. Obtain reports, information, advice, and assistance consistent with DoD Directive 8910.1 (reference (g)), as necessary, to carry out assigned responsibilities and functions.

9.2. Communicate directly with appropriate representatives of the DoD Components and other Executive Departments and Agencies, and members of the public, as appropriate, on matters related to the mission and programs of the USUHS.

9.3. Appoint civilian members of the faculty and staff under salary schedules and grant retirement and other related benefits prescribed by the Secretary of Defense so as to place the employees of the USUHS on a comparable basis with the employees of fully accredited schools of the health professions within the vicinity of the District of Columbia, as provided by law (reference (b)).

9.4. Exercise the administrative authorities contained in enclosure 2.

10. EFFECTIVE DATE

This Directive is effective immediately.

John J. Hamre
Deputy Secretary of Defense

Enclosures - 2
E1. References, continued
E2. Delegations of Authority

E1. ENCLOSURE 1

REFERENCES, continued

(e) Title 5, United States Code
(f) DoD Directive 5136.1, "Assistant Secretary of Defense for Health Affairs (ASD(HA))," May 27, 1994
(g) DoD Directive 8910.1, "Management and Control of Information Requirements," June 11, 1993

E2. ENCLOSURE 2

DELEGATIONS OF AUTHORITY

E2.1.1. Under the authority vested in the Secretary of Defense, and subject to the authority, direction, and control of the Secretary of Defense, the Under Secretary of Defense for Personnel and Readiness, and the ASD(HA), the President of the USUHS is hereby delegated authority, subject to paragraph E2.1.2., below, as required in the administration and operation of the USUHS, to:

E2.1.1.1. Exercise the powers vested in the Secretary of Defense by 5 U.S.C. 301, 302(b), 3101, and 5107 on the employment, direction, and general administration of USUHS civilian personnel.

E2.1.1.2. Fix rates of pay for wage-rate employees exempted from the "Classification Act of 1949" by 5 U.S.C. 5102 on the basis of rates established under the Federal Wage System. The fixing of such rates shall follow the wage schedule established by the DoD Wage Fixing Authority.

E2.1.1.3. Administer oaths of office to those entering the Executive Branch of the Federal Government, in accordance with 5 U.S.C. 2903, and designate in writing, as may be necessary, officers and employees of the USUHS to perform that function.

E2.1.1.4. Establish a USUHS Incentive Awards Board and pay cash awards to, and incur necessary expenses for the honorary recognition of, civilian employees of the Government whose suggestions, inventions, superior accomplishments, or other personal efforts, including special acts or services, benefit or affect the USUHS or its subordinate activities, in accordance with 5 U.S.C. 4503; Office of Personnel Management (OPM) regulations; and DoD 1400.25-M, "DoD Civilian Personnel Manual (CPM)," Chapter 400, Subchapter 451, "Awards," December 1996, authorized by DoD Directive 1400.25, November 25, 1996.

E2.1.1.5. Maintain an official seal and attest to the authenticity of official USUHS records under that seal.

E2.1.1.6. Establish advisory committees and employ part-time advisors, as approved by the Secretary of Defense, for the performance of USUHS functions,

consistent with the 10 U.S.C. 173, 5 U.S.C. 3109(b), and DoD Directive 5105.4, "Department of Defense Federal Advisory Committee Management Program," September 5, 1989.

E2.1.1.7. In accordance with Executive Order (E.O.) 10450, "Security Requirements for Government Employment," April 27, 1953; E.O. 12333, "United States Intelligence Activities," December 4, 1981; and E.O. 12968, "Access to Classified Information," August 4, 1995; and DoD Directive 5200.2, "DoD Personnel Security Program (DoDSP)," April 9, 1999, as appropriate:

E2.1.1.7.1. Designate any position in the USUHS as a "sensitive" position.

E2.1.1.7.2. Authorize, in case of an emergency, the appointment of a person to a sensitive position in the USUHS for a limited period of time and for whom a full field investigation or other applicable investigation, including the National Agency Check, has not been completed.

E2.1.1.7.3. Initiate personnel security investigations, and, if necessary, in the interest of national security, suspend a security clearance for personnel assigned, detailed to, or employed by the USUHS. Any action under this paragraph shall be taken, in accordance with procedures prescribed in DoD 5200.2-R, "DoD Personnel Security Program," January 1987, authorized by DoD Directive 5200.2, April 9, 1999.

E2.1.1.8. Act as the agent for the collection and payment of employment taxes imposed by Chapter 21 of the Internal Revenue Code of 1954, as amended; and, as such agent, make all determinations and certifications required or provided for under Section 3122 of the Internal Revenue Code of 1954, as amended, and Sections 205(p)(1) and 205(p)(2) of the "Social Security Act," as amended (42 U.S.C. 405(p)(1) and 405(p)(2)), about USUHS employees.

E2.1.1.9. Authorize and approve the following:

E2.1.1.9.1. Temporary duty travel for military personnel assigned or detailed to the USUHS, in accordance with the Joint Federal Travel Regulations (JFTR), Volume 1, "Uniformed Service Members," current edition.

E2.1.1.9.2. Travel for USUHS civilian personnel, in accordance with the Joint Travel Regulations (JTR), Volume 2, "DoD Civilian Personnel," current edition.

E2.1.1.9.3. Invitational travel to non-DoD employees whose

consultative, advisory, or other highly specialized technical services are required in a capacity that is directly related to, or with, USUHS activities, in accordance with the JTR, Volume 2, "DoD Civilian Personnel," current edition.

E2.1.1.9.4. Overtime work for the USUHS civilian personnel, in accordance with 5 U.S.C. Chapter 55, Subchapter V, and applicable OPM regulations.

E2.1.1.10. Approve the expenditure of funds available for travel by military personnel assigned or detailed to the USUHS for expenses incident to attendance at meetings of technical, scientific, professional, or other similar organizations in such instances when the approval of the Secretary of Defense, or designee, is required by 37 U.S.C. 412 and 5 U.S.C. 4110 and 4111.

E2.1.1.11. Develop, establish, and maintain an active and continuing Records Management Program under 44 U.S.C. 3102 and DoD Directive 5015.2, "DoD Records Management Program," April 11, 1997.

E2.1.1.12. Utilize the Government purchase card for making micro-purchases of material and services, other than personal services, for the USUHS, when it is determined more advantageous and consistent with the best interests of the Government.

E2.1.1.13. Authorize the publication of advertisements, notices, or proposals in newspapers, magazines, or other public periodicals, as required for the effective administration and operation of the USUHS, consistent with 44 U.S.C. 3702.

E2.1.1.14. Establish and maintain, for the functions assigned, an applicable publications system for the promulgation of common supply and service regulations, instructions, and reference documents, and changes thereto, under the policies and prescribed procedures in DoD 5025.1-M, "Department of Defense Directives System Procedures," August 1994, authorized by DoD Directive 5025.1, June 24, 1994.

E2.1.1.15. Enter into support and service agreements with the Military Departments, the other DoD Components, and the other Government Agencies, as required for the effective performance of USUHS functions and responsibilities.

E2.1.1.16. Enter into and administer contracts, directly or through a Military Department, a DoD contract administration services component, or other Federal Agency, as applicable for supplies, equipment, and services required to accomplish the mission of the USUHS. To the extent that any law or E.O. specifically limits the exercise of such authority to persons at the Secretariat level, such authority shall be

exercised by the applicable Under Secretary of Defense or Assistant Secretary of Defense.

E2.1.1.17. Establish and maintain appropriate property accounts for the USUHS, and appoint Boards of Survey, approve reports of survey, relieve personal liability, and drop accountability for USUHS property in the authorized property accounts that is lost, damaged, stolen, destroyed, or otherwise rendered unserviceable, in accordance with applicable laws and regulations.

E2.1.1.18. Promulgate the necessary security regulations for the protection of property and places under the jurisdiction of the President of the USUHS, under DoD Directive 5200.8, "Security of DoD Installations and Resources," April 25, 1991.

E2.1.1.19. Exercise the authority delegated to the Secretary of Defense by the Administrator of the General Services Administration for the disposal of surplus personal property.

E2.1.2. The delegations of authority provided by paragraph E2.1.1, above, are also subject to the following, in order of precedence:

E2.1.2.1. The authority, direction, and control of the ASD(HA).

E2.1.2.2. The management direction and control of the USUHS Executive Committee.

E2.1.2.3. Regulations and procedures of the DoD Executive Agent, applicable to the USUHS, under section 7.2. of this Directive, for administration of the USUHS.

E2.1.3. The President of the USUHS may redelegate those authorities, as applicable, and in writing, except as otherwise specifically indicated in paragraph E2.1.1. through subparagraph E2.1.2.3., above, or as otherwise provided by law or regulation.

CHARTER

THE BOARD OF REGENTS
OF THE
UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

A. Official Designation: The Advisory Committee shall be known as the Board of Regents of the Uniformed Services University of the Health Sciences (USUHS). As an advisory committee, the Board will be governed by the provisions of the Federal Advisory Committee Act (FACA), the GSA Final Rule (41 C.F.R. Part 101-6), and DoD Directive 5105.4, the "DoD Federal Advisory Committee Management Program."

B. Objective and Scope of Activity: To provide advice and guidance to the Secretary of Defense through the Assistant Secretary of Defense for Health Affairs for the operation of the Uniformed Services University of the Health Sciences. To assure that said operation is in the best tradition of academia and in compliance with the appropriate accreditation authorities.

C. Period of Time Required: This Committee is established pursuant to 10 U.S.C. 2112 et seq. and exists indefinitely.

D. Official or Sponsoring Proponent to Whom the Committee Reports: The Secretary of Defense through the Assistant Secretary of Defense for Health Affairs.

E. Support Agency: The Uniformed Services University of the Health Sciences.

F. Duties and Responsibilities:

1. The business of the University shall be conducted by the Secretary of Defense through the Assistant Secretary of Defense for Health Affairs and the USUHS Executive Committee with the advice of the Board of Regents (hereinafter referred to as the "Board") with funds appropriated for and provided by the Department of Defense within the Defense Health Program. The Board shall consist of

a. nine persons outstanding in the fields of health and health education who shall be appointed from civilian life by the President of the United States, by and with the advice and consent of the Senate;

b. the Secretary of Defense, or designee, who shall be an ex-officio member;

c. the Surgeons General of the Uniformed Services, who shall be ex-officio members; and

d. the person referred to in subsection (4).

2. The term of office for each member of the Board (other than an ex-officio member) shall be six years except that

a. any member appointed to fill a vacancy occurring before the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term;

b. any member whose term of office has expired shall continue to serve until his successor is appointed.

3. One of the members of the Board (other than an ex-officio member) shall be designated by the President as Chairman and shall be the presiding officer of the Board.

4. The Board shall provide advice regarding the appointment of a President of the University (hereinafter in this charter referred to as the "President") who shall also serve as a non-voting ex-officio member of the Board. The Board shall also provide advice regarding the appointment of a Dean of the Medical School and Dean of the Graduate School of Nursing.

5. Members of the Board (other than ex-officio members) while attending conferences or meetings or while otherwise performing their duties as members shall be entitled to receive compensation at a rate to be fixed by the Secretary of Defense, but not exceeding $100.00 per diem and shall also be entitled to receive an allowance for necessary travel expenses while so serving away from their place of residence.

6. The Board may recommend academic titles, as appropriate, upon military and civilian members of the faculty. The Board may recommend the awarding of appropriate academic degrees to successful candidates.

7. The Board is authorized to recommend negotiation of agreements with agencies of the Federal Government to utilize on a reimbursable basis appropriate existing Federal medical resources located in or near the District of Columbia. Under such agreements the facilities will retain their identities and basic missions. The Board is also authorized to recommend affiliation agreements with an accredited university or universities. Such agreements may include provisions for payments for educational services provided students participating in Department of Defense educational programs.

8. The Board may recommend establishment of postdoctoral, postgraduate, and technological institutes.

9. The Board may recommend establishment of programs in continuing medical education for military members of the health professions to the end that high standards of health care may be maintained within the military medical services.

10. The Board may recommend to the Assistant Secretary of Defense for Health Affairs that the University, upon approval of the Secretary of Defense, may enter into agreements with foreign military medical schools for reciprocal education programs under which students at the University receive specialized military medical instruction at the foreign military medical school and military medical personnel of the country of such medical school receive specialized military medical instruction at the University. Any such agreement may be made on a reimbursable basis or a nonreimbursable basis.

11. In carrying out the specific functions listed above and in performing other activities, the Board shall serve as the primary advisor to the Secretary of Defense, to the Assistant Secretary of Defense (Health Affairs), to the USUHS Executive Committee, and to the President of USUHS concerning academic affairs of the University.

G. **Estimated Annual Operating Costs and Estimated Man-Years:** $185,600.00; 2.5 FTE

H. **Number of Meetings:** This Committee is established by statute, 10 U.S.C. 2112 et seq., and shall meet at least four (4) times per year and as often as the Secretary or Chairperson of the Board shall deem necessary to conduct University business.

I. **Termination Date:** The Committee by statute has no termination date (Cf Sec. 8091, P.L. 101-511, DoD Appropriations Act, 1991).

J. **Date Charter is Filed: April 4, 2001**

Bylaws
of the
Uniformed Services University of the Health Sciences
Board of Regents

Article I

Name

The Advisory Committee shall be known as the Board of Regents of the Uniformed Services University of the Health Sciences (USUHS).

Official Designation

As a federal advisory committee, the Board will be governed by the provisions of the Federal Advisory Committee Act (FACA), the GSA Final Rule (41 C.F.R. Part 101-6), DoD Directive 5105.4, "Federal Advisory Committee Management Program," and DoD Directive 5105.45, "Uniformed Services University of the Health Sciences."

Article II

Purpose and Objective

A. The purpose of the Board of Regents shall be to provide advice and guidance to the Secretary of Defense through the Assistant Secretary of Defense for Health Affairs and also to the USUHS Executive Committee for the operation of the Uniformed Services University of the Health Sciences.

B. To assure that said operation is in the best tradition of academia and in compliance with the appropriate accreditation authorities.

C. Other specific purposes as identified in DoD Directive 5105.45.

Article III

Members
The Board shall consist of:

A. Nine persons, outstanding in the fields of health and health education, who shall be appointed from civilian life by the President of the United States, by and with the advice and consent of the Senate;

B. The Secretary of Defense, or designee, who shall be an ex-officio Member;

C. The Surgeons General of the Uniformed Services, or their designees, who shall be ex-officio Members; and

D. The President/Dean of the University who shall also serve as a non-voting ex-officio Member of the Board.

Term of Office
The term of office for each Member of the Board (other than an ex-officio Member) shall be six years except:

A. Any Member appointed to fill a vacancy, occurring before the expiration of the term for which his predecessor was appointed, shall be appointed for the remainder of such term;

B. Any Member whose term of office has expired shall continue to serve until a successor is appointed. These appointments will be renewed annually on the anniversary of the original appointment date.

Appointment of Chair

One of the Members of the Board (other than ex-officio Members) shall be designated by the President of the United States as Chair and shall be the Presiding Officer of the Board. The term of the Chair shall continue until a successor is appointed.

Selection of Vice-Chair

The Chair shall appoint a person to serve as Vice Chair.

Article IV

Duties and Responsibilities

A. The Board shall advise the Secretary of Defense, through the Assistant Secretary of Defense, regarding the appointment of the President of the University and the appointments of Deans to the School of Medicine and the Graduate School of Nursing, and approve the nomination from the Deans of the Schools of the Department Chairs. (See U.S. Code Title 10, Section 2113, attached.)

B. The Board shall be informed by the President of the University of appointments of associate deans and assistant deans.

C. The Board shall recommend the awarding of appropriate academic degrees to successful candidates.

D. The Board will ensure that the University maintains appropriate accreditation requirements.

E. The Board shall act upon recommendations made by the Committees on Appointments, Promotion, and Tenure.

F. The Board shall act upon recommendations made to establish new academic programs. A reading will occur when a proposal is presented; action will be taken at the next regularly scheduled subsequent meeting.

G. The Board shall perform other duties as deemed appropriate and within its charter.

Article V

Advisors

A. The Deans of the Schools are advisors to the Board.

B. The Commanders of affiliated teaching hospitals are advisors to the Board.

C. A military advisor to the Board will provide guidance from an operational perspective.

D. The Board may invite other individuals to be advisors.

Article VI

Committees

A. Executive Committee of the Board of Regents

Designation

The Board shall designate a body as the Executive Committee. The Executive Committee shall report to the Board.

Purpose

The Committee shall be responsible for conducting Board business between Board meetings. Actions taken by the Committee shall be submitted for ratification at the next regularly scheduled meeting.

Membership

The Committee will be composed of:

a. Chair, Board of Regents
b. Vice Chair, Board of Regents
c. Chair, USU Executive Committee
d. Two members selected by the Board
e. President, USU

Meetings

The Executive Committee of the Board of Regents will meet either at the call of the Chair or at the request of any two members other than the Chair. Meetings may be held in person or via conference call.

B. Ad Hoc Committees

Designation

The Board, as a body, shall designate ad hoc committees as necessary.

Purpose

Each such ad hoc committee shall be responsible for in-depth consideration of assigned Board agenda items and/or special projects between scheduled meetings.

Membership

The Chair of the Board of Regents will appoint ad hoc committee members.

Meetings

Each ad hoc committee will meet either at the call of its Chair, or at the request of any two members other than the Chair of the committee. Meetings may be held in person or via conference call.

Article VII

General Procedures

A. Regular Meetings

(1) The Board will hold at least four (4) meetings in an annual period from October 1 to September 30, or as often as the Secretary of Defense or Chair of the Board shall deem necessary to conduct University business.

(2) Unless otherwise determined by the Board, meetings will be held in the Board of Regents conference room at the University, 4301 Jones Bridge Road, Bethesda, MD 20814.

B. Additional Meetings

(1) Additional meetings will be called by the Executive Secretary upon the direction of the Chair, the President of the University, or written request of three or more Regents.

(2) Additional meetings of the Board will be held at such times and places as will be specified in the notice of the meeting.

C. Notice of Meetings

(1) Notice of all meetings of the Board shall be sent by the Secretary to each Regent by mail, fax, electronic mail (e-mail), or telephone.

(2) The Secretary shall mail a notice not less than fifteen (15) days before any regular meeting. Faxing, e-mailing, or telephoning a notice shall be done not less than seven (7) days before a regular meeting.

(3) The recital by the Secretary in the minutes that notice was given shall be sufficient evidence of the fact.

(4) Public Announcement of the meetings of the full Board will appear in the Federal Register as provided in the Government in the Sunshine Act. (5 U.S.C. 552b(e)(3))

D. Quorum

A majority of all Members will constitute a quorum of the Board. As currently constituted, a quorum means at least eight (8) members must be present in person or via electronic means.

E. Voting

(1) During a meeting, if a quorum is called for by a member and found not to be present, no further business may be transacted.

(2) During a meeting, issues will be determined by voice balloting, unless an individual Member requires a written ballot.

(3) The Chair of the Board is a Member of the voting assembly and has the right to vote as any other Member when the vote is by ballot.

(4) Unless otherwise specified, a simple majority vote will determine matters of issue before the Board. In the event of a tie vote, the proposed resolution is lost.

(5) At the direction of the Chair, action may also be taken by a majority of the Members by notation voting (that is to say by voting on material circulated to the Members individually or serially, or by polling of Members individually or collectively by mail, telephone, fax, e-mail or similar procedure). Such action will be reported by the Secretary at the next Board Meeting.

(6) The Secretary of Defense, or the Secretary's designee, is authorized to vote.

(7) The Surgeons General of the Uniformed Services, or their duly appointed designees, are authorized to vote. The President/Dean of the University is precluded by DoD Directive 5105.45 from voting.

F. Order of Business

The order of business will be at the discretion of the Chair unless otherwise specified by the Board.

G. Rules of Order

In the determination of all questions of parliamentary usage, the decision of the Chair or presiding officer will be based upon the latest available revision of "Robert's Rules of Order."

Article VIII

Amendment of Bylaws

A. Amendments

These Bylaws may be amended at any meeting of the Board of Regents as long as each proposed amendment has been provided to Members at least 60 days before the next scheduled meeting. Amendments will take effect by the affirmative vote of two-thirds (2/3) of the Members present.

Effective Date:

These Bylaws are effective February 6, 2001.

Lonnie R. Bristow M.D.

Lonnie R. Bristow, M.D., Chair, Board of Regents

CHARTER

THE EXECUTIVE COMMITTEE OF THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

A. Official Designation: The committee shall be known as the Executive Committee of the Uniformed Services University of the Health Sciences. The committee shall be governed by the provisions of Department of Defense Directive 5105.18, "DoD Committee Management Program," February 8, 1999.

B. Objective and Scope of Activity: To provide for the management and supervision of the Uniformed Services University of the Health Sciences. To assure that the operation of the University is in compliance with appropriate Department of Defense Directives, Instructions and Regulations. To ensure the President of the University shall have execution authority direction and control of USUHS and report to the Executive Committee. To facilitate accomplishment of the function's of the ASD(HA), the Surgeons General, and the Executive Agent as described in DoD Directive 5105.45, "Uniformed Services University of the Health Sciences."

C. Period of Time Required: This Committee is established pursuant to Program Budget Decision 711 of December 17, 1997 and will exist until rescinded by the Secretary of Defense.

D. Official of Sponsoring Proponent to Whom the Board Reports: Assistant Secretary of Defense (Health Affairs).

E. Duties and Responsibilities:

1. The business of the University shall be conducted under the management and supervision of the Executive Committee with Defense Health Program and other funds appropriated for and provided by the Department of Defense through the Department of the Navy as the Executive Agent.

2. The Executive Committee shall consist of the Surgeons General of the Military Services. The membership will determine the Chair.

3. The Executive Committee will be guided by the advice of the USUHS Board of Regents on academic affairs.

4. The Executive Committee will oversee matters involving programming, budgeting and funding execution. In this regard, budgets approved by the Executive Committee will be presented by the Executive Agent to the Defense Health Program as a part of its responsibility for the planning, programming and budgeting execution system of the USUHS.

F. Signature Authority: The Chair has authority to transmit decisions upon which the Executive Committee has reached unanimity. In the absence of a member of the Executive Committee, the representative of a Surgeon General is authorized to participate in the decision-making process.

G. Number of Meetings: The Executive Committee shall meet at the call of the Chair but not less than quarterly.

Charter Approved, December 18, 2000:

VADM Richard A. Nelson
Surgeon General of the Navy
Chair

LtGen Paul K. Carlton Jr.
Surgeon General of the Air Force
Member

LTG James B. Peake
Surgeon General of the Army
Member

Uniformed Services University

Strategic Plan

A Message from the President

The University Strategic Plan has become the core document with which the University is formulating its future. In accordance with good management practices, we have aligned our plan with the Department of Defense Medical Health System (MHS) Business Plan.

In April 2001, the University senior staff, teaching hospital representatives, Chair of the Board of Regents, and representatives of the Surgeons General held a very productive three-day retreat to review our strategic plan. We examined our strengths, weaknesses, opportunities, and threats. As a result, we identified seven new goals and over forty objectives, of which 28 were selected to be worked on in FY 2002. Since last year, over 200 people have been working on these objectives to meet our mission of "Learning to care for those in harm's way."

Listed below are the University's seven goals with their respective goal champions. I invite you to click on each goal to view the objectives and strategies that are being worked on in FY 2002.

***Goal 1:* We will enhance the reputation of USU as a premier health sciences academic institution with a unique global and military perspective.**

Goal Champions:
Mr. Peter Esker, pesker@usuhs.mil
Lt Col Carolyn Miller, cmiller@usuhs.mil

***Goal 2:* We will anticipate changes in society, medicine and the military to meet the academic and unique needs of health care delivery in the MHS.**

Goal Champions:
Dr. Emmanuel Cassimatis, ecassimatis@usuhs.mil
Col Martha Turner, mturner@usuhs.mil

***Goal 3:* We will optimize resources to efficiently and effectively implement USU core capabilities.**

Goal Champions:
Mr. Steve Rice, srice@usuhs.mil

***Goal 4:* We will build a sustaining financial base.**

Goal Champions:
Mr. Charlie Mannix, cmannix@usuhs.mil

***Goal 5:* We will optimize our role in military and federal medical education and research.**

Goal Champions:
Dr. Val Hemming, vhemming@usuhs.mil
Dr. Steve Kaminsky, skaminsky@usuhs.mil

***Goal 6:* We will create a powerful, committed and energized University family.**

Goal Champions:
Mrs. Mary Dix, mdix@usuhs.mil
Dr. Richard MacDonald, rmacdonald@usuhs.mil

***Goal 7:* We will effectively communicate the right information to the right people at the right time.**

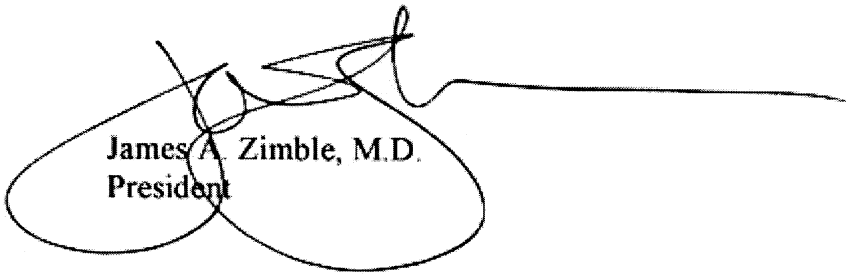
Goal Champions:
Dr. Vernon Schinski, vschinski@usuhs.mil
COL Charles Serio, cserio@usuhs.mil

I believe that a useful plan is always a work-in-progress. We will constantly refer to the strategic plan as our beacon, but will adjust a few points of the compass as the University deals with the changing environment.

I invite you to read this plan, coming back occasionally as new objectives and strategies are added. I also encourage you to engage in discussions with the Goal Champions--a link is located at the bottom of each goal that will connect you with their email address. Please feel free to share your thoughtful comments.

This is our strategic plan to guide the University in the 21st century. This strategic plan has no value if it is filed or posted and ignored; it becomes an effective and

dynamic plan directed towards the University's vision when we are all involved in its creation and maintenance. Your input is important, welcomed, and appreciated.



James A. Zimble, M.D.
President

Uniformed Services University

Strategic Plan

GOAL 1

We will enhance the reputation of USU as a premier health sciences academic institution with a unique global and military perspective.

Goal Champions:

Mr. Peter Esker, pesker@usuhs.mil, 301-295-1219
Lt Col Carolyn Miller, cmiller@usuhs.mil, 301-295-9560

*1.1: Public understands the unique roles and values of the Uniformed Services University.

1.1.1 Public relations and other announcements and press releases have USU and its success stories.

Integrated Action Team Leader: *Mr. John Frankenburg, jfrankenburg@usuhs.mil, 301-295-3665*

*1.2: Military and civilian leadership recognize the University's role in military medicine and preparation for operational missions.

1.2.1 Military and civilian leadership recognize the University's role in military medicine and preparation for operation missions.

Integrated Action Team Leader: *Dr. James Smirinotopolus, jsmirnio@usuhs.mil, 301-295-3145*

*1.3: The University is a prized and career-enhancing assignment for both military and civilian health care professionals.

1.3.1 The University is a prized and career-enhancing assignment for both military and civilian health care professionals.

Integrated Action Team Leader: *CDR Barry Wayne, bwayne@usuhs.mil, 301-295-3019*

*1.4: The University actively recruits under-represented minorities in order to attain a diverse faculty and student body in proportion to the population of the MHS.

1.4.1 Active recruiting efforts to raise the total applicant pool: target under-represented minorities, women, military personnel, and all prospective applicants.

Integrated Action Team Leader: *Mr. Peter Stavish, pstavish@usuhs.mil, 301-295-3198*

*1.5: Alumni are proud to serve as University ambassadors for recruitment and public relations.

1.5.1 Contact alumni; donations increased by 10% per year for three years.

Integrated Action Team Leader: *Mrs. Helaine Ahern, hahern@usuhs.mil, 301-295-3094*

1.5.2 Contact alumni to attend recruitment fairs in their local area, and to coordinate presentations at local military installations.

Integrated Action Team Leader: *Dr. J Mauri Hamilton, hamilton@usuhs.mil, 301-295-9561* and *Mrs. Sharon Willis, swillis@usuhs.mil, 301-295-3578*

* *These objectives will be worked in FY 2002*

Uniformed Services University

Strategic Plan

GOAL 2

We will anticipate changes in society, medicine and the military to meet the academic and unique needs of health care delivery in the MHS.

Goal Champions:
Dr. Emmanuel Cassimatis, ecassimatis@usuhs.mil, 301-295-1917
Col Martha Turner, mturner@usuhs.mil, 301-295-1009

*2.1: The University is an active and valued participant in professional, academic and military organizations.

2.1.1 The USU is an active and valued participant in professional, academic and military organizations.

Integrated Action Team Leader: *Lt Col Paul Austin, paustin@usuhs.mil, 301-295-1206*

*2.2: The University strongly advocates for the direct care component of the MHS.

2.2.1 Education - and knowledge - of USU students and faculty about the direct care systems.

Integrated Action Team Leader: *Dr. Galen Barbour, gbarbour@usuhs.mil, 301-295-3832*

*2.3: The University serves as a think tank to address new issues as they emerge.

2.3.1 The University serves as a "think tank," or intellectual resource.

Integrated Action Team Leader: *Dr. Geoff Ling, gling@usuhs.mil, 301-295-3683*

2.4: The University is fully integrated into the MHS.

* *These objectives will be worked in FY 2002*

Uniformed Services University

Strategic Plan

GOAL 3

We will optimize resources to efficiently and effectively implement USU core capabilities.

Goal Champion:
Mr. Steve Rice, srice@usuhs.mil, 301-295-3896

*3.1: Best business practices are implemented.

3.1.1 Consolidation of University Space Committee's.

Integrated Action Team Leader: *Dr. Richrd Andre, randre@usuhs.mil, 301-295-3024*

3.1.2 Implement the use of a business plan for all University projects.

Integrated Action Team Leader: *Dr. Vernon Schinski, vschinski@usuhs.mil, 301-295-3700*

3.1.3 Increase ordering ceiling on IMPAC card for certain departments, e.g. LRC, UIS.

Integrated Action Team Leader: *LTC James Swearengen, jswearengen@usuhs.mil, 301-295-1910*

3.1.4 Indirect Funds/Support Cost Recovery distribution.

Integrated Action Team Leader: *Mr. Norman Qualtrough, nqualtrough@usuhs.mil, 301-295-3443*

3.1.5 Improve civilian personnel hiring process within USU by improving/modifying the SF-52 tracking system.

Integrated Action Team Leader: *Mr. Joe Piemontese, jpiemontese@usuhs.mil, 301-295-3412*

3.1.6 Improve the USU Instruction Review process.

Integrated Action Team Leader: *Mrs. Patricia Burke, pburke@usuhs.mil, 301-295-3032*

3.1.7 Obtain the most up-to-date financial/purchasing/logistical software to replace or update the CUFS software.

Integrated Action Team Leader: *Mr. Robert Parker, rparker@usuhs.mil, 301-295-3287*

*3.2: Facilities and infrastructure are state-of-the-art.

3.3: Salaries, benefits and compensation plans are competitive.

**** These objectives will be worked in FY 2002***

Uniformed Services University

Strategic Plan

GOAL 4

We will build a sustaining financial base.

Goal Champion:

Mr. Charlie Mannix, cmannix@usuhs.mil, 301-295-3981

***4.1: Research and resource funding is increased.**

***4.2: Endowments are developed in concert with strategic plan objectives.**

4.3: All cost centers are actively engaged in POM process.

4.4: Synergy between USUHS and HJF is increased.

4.5: Tech transfer/CRADA is used to fullest extent.

4.6: Directed entrepreneurial activity is fostered.

4.7: Flexible long term funding is secured.

4.8: The University receives significant external private financial support including alumni contributions.

4.1.1 - 4.4.1 Increase research and resource funding is predicated on the growth of its components.

Integrated Action Team Leader: *Mrs. Helaine Ahern, hahern@usuhs.mil, 301-295-3094*

* *These objectives will be worked in FY 2002*

Uniformed Services University

Strategic Plan

GOAL 5

We will optimize our role in military and federal medical education and research.

Goal Champions:

Dr. Val Hemming, vhemming@usuhs.mil, 301-295-3017
Dr. Steve Kaminsky, skaminsky@usuhs.mil, 301-295-9440

*5.1: Educational programs promote military medial readiness, public health, and force protection.

5.1.1 Educational programs promote military medical readiness, public health, and force protection.

Integrated Action Team Leader: *CDR Barry Wayne, bwayne@usuhs.mil, 301-295-3019*

5.2: Educational programs meet accreditation standards.

5.3: Educational and research programs set new standards for knowledge and skills in contingency medicine.

5.4: Programs teach professional values and behavior including culture and heritage.

5.5: Educational processes develop leadership professional and administrative skills for medical professionals.

*5.6: Research and development focuses on military relevant outcomes.

5.6.1 Research and development focuses on military relevant outcomes.

Integrated Action Team Leader: *CAPT Larry Laughlin, llaughlin@usuhs.mil, 301-295-3170*

5.7: Partnerships are established to enhance collaborative research, education and tech transfer.

*5.8: Compliance in research is assured.

5.8.1 Define policy/process for University wide research compliance.

Integrated Action Team Leader: *Dr. Steve Kaminsky, skaminsky@usuhs.mil, 301-295-9440*

5.9: Education and research in patient safety are carried out.

5.10: University graduates exceed our customer's expectations.

5.11: Our graduates serve as a continuous source of career medical officers.

**** These objectives will be worked in FY 2002***

Uniformed Services University

Strategic Plan

GOAL 6

We will create a powerful, committed and energized University family.

Goal Champion:

Mrs. Mary Dix, mdix@usuhs.mil, 301-295-1958
Dr. Richard MacDonald, rmacdonald@usuhs.mil, 301-295-3185

*6.1: Staff and faculty are satisfied and productive.

6.1.1 Faculty, staff, and student welfare and satisfaction are continuously monitored within the University.

Integrated Action Team Leader: *CAPT Jane Mead,jmead@usuhs.mil, 301-295-0962*

*6.2: Strategic thinking is imbedded in the organizational culture of the University.

6.2.4 All of the USUHS community must share a vision that all employees, working as one team, can accomplish.

Integrated Action Team Leader: *Chaplain Evans, jevans@usuhs.mil, 301-295-9193*

*6.3: Alumni are active and engaged in the University.

6.3.1 Information will be provided to USUHS Alumni that will promote the development of academic, clinical, and management skills.

Integrated Action Team Leader: *COL George Fuller, gfuller@usuhs.mil, 301-295-3632*

*6.4: Communication will be enhanced throughout the University community both on-site and off-site.

6.4.2 USUHS faculty, staff, students, and alumni, both on-site and off-site, will be provided information relevant to their career enhancement, mission, and interests.

Integrated Action Team Leader: *Dr. Neil Grunberg, ngrunberg@usuhs.mil, 301-295-3270*

**** These objectives will be worked in FY 2002***

Uniformed Services University

Strategic Plan

GOAL 7

We will effectively communicate the right information to the right people at the right time.

Goal Champions:
Dr. Vernon Schinski, vschinski@usuhs.mil, 301-295-3700
COL Charles Serio, cserio@usuhs.mil, 301-295-2690

7.1: Every user is educated and trained in appropriate use of information media.

7.2: "Push technology" is provided for critical information.

7.3: Every user has a valid e-mail address.

*7.4: Tools are available and utilized for off-site communications.

7.4.1 Improve off-site communication.

Integrated Action Team Leader: *Ms. Emma Ford, eford@usuhs.mil, 301-295-9800*

7.4.2 Revise mail codes for distribution of correspondence at the University and its associated activities, including AFRRI.

Integrated Action Team Leader: *Mrs. Jane Bradley, jbradley@usuhs.mil, 301-295-3701*

*7.5: A robust array of communication mechanisms is maintained.

7.5.1 Establish an electronic communication policy for all of the University and its subordinate activities.

Integrated Action Team Leader: *Mr. Pete Esker, pesker@usuhs.mil, 301-295-1219*

7.5.2 Establish policies/procedures for the use of voice mail as a communication mechanism at the University and its activities.

Integrated Action Team Leader: *Mr. Dennis Stutz, dstutz@usuhs.mil, 301-295-3301*

7.5.3 Provide a flexible means for electronic distribution of official communication at the University.

Integrated Action Team Leader: *Mrs. Royce Lewis, rlewis@usuhs.mil, 301-295-9800*

**** These objectives will be worked in FY 2002***

APPENDIX C

Selected Examples of Billeted and Off-Campus Members of the USU Departments and Programs and Department Activities Receiving Special Recognition During 2001.

Anatomy, Physiology and Genetics - School of Medicine.

Background. The Department of Anatomy, Physiology and Genetics (APG) makes substantial contributions to the educational and research missions of the University. In the past year, the Department made significant progress toward achieving a total integration of the Anatomy and Physiology curricula for the USU medical students. First-year medical students spend over half of their instructional time with APG faculty (493 of 929 contact hours); the medical students' experiences in the first year are viewed as laying an important groundwork for their clinical practice. The goal is to provide a comprehensive, systematic, yet easier-to-learn body of information in the basic sciences. The anatomical and physiological curriculum is presented in a series of three courses. The first Course, Introduction to Structure and Function, provides an introduction to cell biology and physiology, and an understanding of physiological function by the dissection of the human body; clinical correlation demonstrates the relationships of organ systems and congenital abnormalities. The second Course, Clinical Head, Neck and Functional Neuroscience, integrates the basic and clinical anatomy of the head and neck with microstructure, physiology of the special senses, and functional neuroscience; case studies are employed to enhance core basic science information and to facilitate the development of clinical reasoning skills. The third Course, Organ System Function and Microstructure, examines the normal physiological and anatomical functions of the six major organ systems; a multi-disciplinary approach is again used to emphasize the clinical implications of interactions between organ systems. **In the current year, faculty of the Department manage research funding which exceeds $9.7 million.** A wide range of research programs are supported by funds from the National Institutes of Health, the Cystic Fibrosis Foundation, the Food and Drug Administration, as well as components of the Department of Defense, including intramural USU research funds, the Veterans Head Injury Program, and the TriService Nursing Program. Research programs address such areas as cystic fibrosis, and other genetic diseases, diabetes, cancer, developmental central nervous system disorders, traumatic brain injury, multiple sclerosis, nerve damage from trauma, visual ocular disease, aminated molecules for sleep, fluid and electrolyte balance, stress adaptation, Alzheimers Disease, tissue reconstruction using laser light sources, Trisomy 21-Down Syndrome, Canavan Disease, neuronal dysfunctions following Gulf War Syndrome, Space Medicine, biorhythms, myocardial ischemic injury, and renal functions in hypertension and diabetes. Finally, the Department has been a forerunner in the application of new teaching and research technologies. The Department continues to support the Patient Simulation Center, which is used by medical students and many groups as a training tool. The Department supports genomic and proteomic initiatives, including microarray technologies, mass spectrometry, and sophisticated cell imaging methods.

Nelson J. Arispe, Ph.D., Research Professor, USU SOM Department of Anatomy, Physiology, and Genetics, and his research team discussed their findings from research on Alzheimer's Disease, a chronic dementia affecting the aging population, during the 2001 Meeting of the Society for Neurosciences. Advances of some of the results from this USU research are summarized in the abstracts that were presented at the meeting.

Ruth E. Bulger, Ph.D., Professor, USU SOM Department of Anatomy, Physiology and Genetics, spoke at two national meetings during May of 2001. Her first address, "Ethics of Teaching and Learning," was presented on May 3-4, 2001, at the American Speech-Language-Hearing Association's Conference on Promoting Research Integrity in Communication Sciences and Disorders and Related Disciplines. Doctor Bulger also spoke at the 13th Annual TriService Clinical Investigation Post-Graduate Short Course in San Antonio, Texas, on May 7-9, 2001. Her topic was "The Scientists' Role in Society."

Meera Srivastava, Ph.D., Research Associate Professor, and Harvey B. Pollard, M.D., Ph.D, Professor and Chair, USU SOM Department of Anatomy, Physiology, and Genetics, co-authored an article entitled, "ANX7, a Candidate Tumor Suppressor Gene for Prostate Cancer," which was published in the Proceedings of the National Academy of Sciences, Volume 98, Number 8, April 10, 2001.

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Anesthesiology - School of Medicine.

Lieutenant Colonel Paul Mongan, MC, USA, USU SOM Class of 1987, was selected for the position of Chair, in the USU SOM Department of Anesthesiology during 2001. Doctor Mongan is the medical school's first graduate to become a chair of a clinical department at USU. Doctor Mongan had been assigned to the USU SOM Department of Anesthesiology faculty since 1997, serving as Director of Research and as an Associate Professor; and, he served as the Department's Vice Chair since 1999. Doctor Mongan succeeds Sheila Muldoon, M.D., who will remain on the faculty of USU as a Professor of Anesthesiology. A co-author of nearly 30 medical publications and more than 30 abstracts, Lieutenant Colonel Mongan also helped to write three chapters for a new book, A Handbook of Cardiovascular Anesthesia. He was elected to the Alpha Omega Alpha Medical Honor Society while a student at USU; and, he is a member of the Association of University Anesthesiologists, the American Society of Anesthesiologists and the International Society of Anesthesiologists. Doctor Mongan received his Bachelor of Science Degree from the United States Military Academy in 1983; and, he was also named to the Phi Kappa Phi Honor Society. After graduating from USU, he completed his internship at the Brooke Army Medical Center in Texas in 1988; and, he completed his residency in anesthesiology at the Brooke Army Medical Center in 1991.

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Dermatology - School of Medicine.

Thomas N. Darling, M.D., Assistant Professor and Director of the Sulzberger Laboratory for Dermatologic Research, USU SOM Department of Dermatology, was a 2001 recipient of the Doris Duke Clinical Scientist Development Award for his research, "Tumorigenesis in Multiple Endocrine Neoplasia Type I." He was one of nine faculty-level awardees to receive research funding for up to five years. The New York based Doris Duke Charitable Foundation seeks to improve the quality of people's lives by nurturing the arts, protecting and restoring the environment, seeking cures for diseases, and helping to protect children from abuse and neglect.

Colonel Leonard Sperling, MC, USA, Professor and Chair, USU SOM Department of Dermatology, is one of several USU faculty members who play a significant role in a publishing breakthrough which is re-defining the way today's health care professional obtains timely and critical medical information. Colonel Sperling is an editor and author for the upcoming Dermatology Textbook on *eMedicine.com*, the medical education network which has developed the first and largest on-line, peer-reviewed medical reference library. To date, ten other USU faculty members have contributed to the web site. Colonel Sperling has pointed out that *eMedicine* is available to the entire world, free of charge, assuming Internet access. There is significant supervision of content, with several layers of medical and copy editors. This helps to ensure accuracy and quality. Unlike traditional textbooks, the *eMedicine* chapters can be updated and revised on a daily basis. Unlike traditional medical texts which are as much as six years out of date at the time of publication, information on *eMedicine.com* is updated 24 hours a day, 365 days a year.

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Family Medicine - School of Medicine.

Simon L. Auster, M.D., Associate Professor, USU SOM Department of Family Medicine, was selected as the recipient of the Twelfth Annual Nancy C.A. Roeske, M.D., Certificate of Recognition for Excellence in Medical Student Education. This award was granted by the American Psychiatric Association in recognition of Doctor Auster's "outstanding and sustaining contributions as a faculty member at the University."

Lieutenant Colonel Debbie J. Bostock, USAF, MC, Assistant Professor, USU SOM Department of Family Medicine, was the invited author of a chapter on "Older Adult Preventive Health Care" in the Manual for Women's Health, published in October of 2001 by Cambridge University Press. She was also appointed to the DoD Women's Health Advisory Panel and continues to serve in that capacity.

Colonel George Fuller, MC, USA, Assistant Professor, USU SOM Department of Family Medicine, Colonel Fuller was the co-author of a two-part series of military unique articles for the journal, Military Medicine, published during June and July of 2001, on "Enhancing Soldier and Family Well-Being Across the Life-Course: A Developmental Model of Successful Aging, Spirituality, and Health Promotion for the 21st Century."

Lieutenant Colonel Wayne Jonas, MC, USA, Associate Professor, USU SOM Department of Family Medicine, was appointed, during 2001, to the White House Commission on Complementary and Alternative Medicine Policy. The 15-member commission will report to the President through the Secretary of Health and Human Services on legislative and administrative recommendations to ensure that public policy maximizes the benefits of complementary and alternative medicine to Americans. Education, training of health care practitioners, and research are some of the areas that the commission will be responsible for during its two-year term. Doctor Jonas has held academic appointments at USU since 1986.

Colonel Carl O. Moe, USAF, MC, Clinical Psychologist, USU SOM Department of Family Medicine, continued to work with and analyze the data from the on-going USAF Suicide Risk Reduction Program. In addition, he was selected to coordinate the Psychology Board Examinations for the Middle Atlantic States. Colonel Moe was also an invited speaker on "Children, Adolescents and Disasters" at the annual American Academy of Family Practice Child and Adolescent Medicine Course in October of 2001.

Lieutenant Colonel Francis G. O'Connor, MC, USA, Associate Professor, USU SOM Department of Family Medicine, served as the co-editor for the first Textbook of Running Medicine, published during 2001 by McGraw-Hill. This publication is rapidly becoming the definitive source of information for the health care of runners. Lieutenant Colonel O'Connor and the members of the Sports Medicine Fellowship Training Program, which he directs, also continued to expand the voluntary health care they provide to teams throughout the Washington D.C. area. Medical support is provided for: the Northern Marymount University; Montgomery College; the United States Naval Academy; American University; and, several local high schools.

Charles Privitera, M.D., Senior Faculty, USU SOM Department of Family Medicine, serves as the senior faculty for the Couples and Family Therapy Training Program at the Washington School of Psychiatry. He also directs training in Couples and Family Therapy for the National Capital Consortium Psychiatry Residency Programs.

Lieutenant Colonel Brian V. Reamy, USAF, MC, Assistant Professor and Chair, USU SOM Department of Family Medicine, was the invited author of the chapter on "Disturbances Due to Cold" for the 53rd Edition of one of medicine's most consulted texts, Conn's Current Therapy. In addition, Lieutenant Colonel Reamy was the co-author of an article on "Adolescent Idiopathic Scoliosis" for the journal, American Family Physician. Doctor Reamy was appointed to the position of Chair, Department of Family Medicine, effective September 4, 2001. He received his Medical Doctorate from Georgetown University and completed both a residency in Family Medicine at the David Grant Medical Center and a Fellowship in Faculty Development and Academic Medicine at the University of California, San Francisco. He is a recent graduate of the United States Air Force Air War College and was assigned as the Residency Program Director, Department of Family Practice, Malcolm Grow Medical Center, before his selection as Chair of the USU SOM Department of Family Medicine.

Colonel William Sykora, USAF, MC, Assistant Professor, USU SOM Department of Family Medicine, was the invited presenter of his research on the scope of care and its relationship to job satisfaction and retention of military family physicians at the national American Academy of Family Physicians's Meeting in Atlanta, Georgia.

Lieutenant Commander Mark B. Stephens, MC, USN, Assistant Professor, USU SOM Department of Family Medicine, took second place in the National Family Practice Research Competition at the Annual Assembly of the American Academy of Family Physicians. Doctor Stephens' study focused on the role of ultrasound in managing low-risk pregnancies specifically from the patient's perspective. The presentation was entitled, "Prenatal Ultrasound: The Maternal Perspective." In addition, the Department of Family Medicine Interest Group, headed by Doctor Stephens, was honored with its

recognition by the American Academy of Family Physicians as a 2001 National Program of Excellence. Lieutenant Commander Stephens was also the co-author of the article, "Ergogenic Supplement Use: A Marker for High Risk Behaviors," published in the Journal of Family Practice. This article examined the association between high-risk behaviors and the use of body-building supplements among Marine Corps recruits. In addition, Doctor Stephens was the invited presenter to one national and four regional meetings on a variety of topics ranging from: "Protecting Yourself, Your Family, and Your Patients from Bioterrorism" at the Virginia Academy of Family Physician's Meeting; to "Substance Abuse" at the American Academy of Family Physicians Annual Meeting on Infant, Child and Adolescent Medicine Conference.

Captain Cynthia Williams, DO, USN, Assistant Professor, USU SOM Department of Family Medicine, was selected to be the Geriatric Medicine Representative to the Primary Care Advisory Board of the Bureau of Medicine and Surgery of the United States Navy. She is also appointed to the TRICARE Plus Working Group of the United States Navy.

Cindy C. Wilson, Ph.D., C.H.E.S., Professor, USU SOM Department of Family Medicine, was the invited presenter of several projects to the 9th International Conference on Human-Animal Interactions. She has continued to perform ground-breaking research on the health effects of companion animals on patients with chronic illnesses. In addition, throughout 2001, Doctor Wilson played a significant role in the continuing education efforts for the USU faculty in coordination with the USU SOM Office of Faculty Affairs.

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Laboratory Animal Medicine - Uniformed Services University.

Lieutenant Colonel (P) James R. Swearengen, DVM, VC, USA, Director, Laboratory Animal Medicine, was an invited speaker at the USA-Russia Workshop on International Research Ethics, Institutional Review Boards and Laboratory Animal Welfare held at the Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry in Pushchino, Russia. The workshop was held from January 20-24, 2002, and was sponsored by the Biotechnology Engagement Program of the Department of Health and Human Services (HHS). Lieutenant Colonel Swearengen was invited by HHS to present three lectures which included: 1) *The International Animal Research Community, Resources and Considerations*; 2) *Ending the Confusion of Animal Research Requirements; DoD Policy, PHS Animal Welfare Assurances, AAALAC Accreditation, and Good Laboratory Practices*; and, 3) a *Panel Discussion on Physical Plant Requirements for DoD-Sponsored Animal Research.* Lectures were presented by both United States and Russian experts in the areas of human and animal use in research to help establish a common ground for collaborative research efforts. The workshop was attended by 80 Russian participants from over 30 different institutes.

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Medical History - School of Medicine.

Robert T. Joy, M.D., Professor Emeritus and Former Chair, USU SOM Department of Medical History, was quoted in a feature article discussing the topic of the Army's research on yellow fever. As the former Director of the Walter Reed Army Institute of Research (WRAIR), Doctor Joy helped to explain the history of the Yellow Fever Epidemic in the recent edition of The Lancet, Volume 357, June 2, 2001. In addition, Doctor Joy will receive the 2002 Nicholas E. Davies Memorial Award from the American College of Physicians, American Society of Internal Medicine. The Davies Award is presented to an individual for outstanding contributions to humanism in medicine and recognizes the person's scholarly activities in history, literature, philosophy, and ethics. Doctor Joy was one of the University's first faculty members and helped to establish the curriculum. He was Professor and Chair of the Department of Medical History from 1976 until his retirement in 1996. As Professor Emeritus, he still lectures the USU medical students on the history of military medicine. Doctor Joy, who retired from the Army in 1981 at the rank of Colonel, was the SOM's first Commandant from 1976 to 1981.

Dale C. Smith, Ph.D., Professor and Chair, USU SOM Department of Medical History, was interviewed by the Fox News Channel. As part of its production of eight documentary hours, *War Stories with Oliver North*, the Fox News Channel interviewed Doctor Dale Smith, the Chair of the USU SOM Department of Medical History, and **Brigadier General John Hutton, MC, USA (retired), Former White House Physician.** The interview took place on October 8, 2001, at the National Museum of Health and Medicine at the Armed Forces Institute of Pathology located at the Walter Reed Army Medical Center. The program was aired in 2001.

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Medical and Clinical Psychology - School of Medicine.

Collaborative Agreement with the National Rehabilitation Hospital. The University has established a formal collaborative agreement with the National Rehabilitation Hospital in Washington, D.C. to conduct research and training of medical students, graduate students in psychology, and nursing students in rehabilitation medicine. **Neil Grunberg, Ph.D., Professor, USU SOM Department of Medical and Clinical Psychology,** and **Doctor Edward Healton, National Rehabilitation Hospital,** spearheaded this important, collaborative agreement and serve as the official points of contact for all programs.

Baltimore-Washington Consortium on Public Health and Disease Prevention. The University joined with the National Institutes of Health, Johns Hopkins University, Georgetown University, George Washington University, Howard University, and the University of Maryland to create the Baltimore-Washington Consortium on Public Health and Disease Prevention. **Neil Grunberg, Ph.D., Professor, USU SOM Department of Medical and Clinical Psychology,** and **Captain Larry W. Laughlin, M.D., MC, USN (retired), Professor and current Dean, USU School of Medicine,** serve as the USU representatives to the Steering Committee for this Consortium.

The Occupational Ergonomic Program. A new Occupational Ergonomics Program was initiated in the Fall of 2001. This program is a joint effort between the USU SOM Department of Medical and Clinical Psychology, the USU SOM Department of Preventive Medicine and Biometrics, and the United States Army Center for Health Promotion and Prevention (CHPPM). Classes in Occupational Ergonomics, Human Factors Engineering, Work Analysis Methods, and Safety Engineering are offered to provide specialty training for students in the Medical and Clinical Psychology Programs and for officers in all of the Services who are focusing in the critical areas of injury prevention and occupational ergonomics. **Grant D. Huang, MPH, Ph.D., Research Assistant Professor, USU SOM Department of Medical and Clinical Psychology and the Department of Preventive Medicine and Biometrics** serves as the Program Coordinator.

Michael Feuerstein, Ph.D., Professor, USU SOM Department of Medical and Clinical Psychology, was appointed by the Institute of Medicine to serve as a consultant to the Committee on the Consequences of Un-Insurance. He is assisting in the development of the Report on Health Outcomes for Uninsured Adults focusing on the impact of lack of insurance on mental health outcomes.

Neil E. Grunberg, Ph.D., Professor and Director of Research, USU SOM Department of Medical and Clinical Psychology, was interviewed on the topic of cigarette smoking for a story in the July 2001 edition of Reader's Digest. Doctor Grunberg has researched the complications related to gender differences in smoking since the early 1980s. In the article, Doctor Grunberg explained that those who smoke cigarettes labeled "lower in tar" think that they are smoking a "safer cigarette." He further explained that this is **not** the case as the substances inhaled are often held in the lungs for a longer period of time, thereby canceling out any purported benefits.

Willem J. Kop, Ph.D., Assistant Professor, USU SOM Department of Medical and Clinical Psychology, received continued funding from the Dana Foundation for his project on the role of the autonomic nervous system in coronary artery disease and depression. He also received continued funding from the NHLBI/National Institutes of Health for grants examining the effects of acute and chronic stress on blood coagulation and immune system measures in patients undergoing coronary angioplasty.

Tracy Sbrocco, Ph.D., Associate Professor, USU SOM Department of Medical and Clinical Psychology, received continued funding from the National Institutes of Health for grant R01 DK 55469, Behavior Choice Treatment Promotes Weight Maintenance.

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Medicine - School of Medicine.

Barbara Alving, M.D., Professor, USU SOM Department of Medicine, was selected to serve as the Deputy Director of the Heart, Lung, and Blood Institute, at the National Institutes of Health.

Colonel Naomi E. Aronson, MC, USA, Associate Professor, USU SOM Department of Medicine, was the Section Leader for "Emerging Technologies" at the 15th Annual Conference on Military Medicine, during June of 2001; she presented two plenary sessions at the conference. She was also the invited presenter (on the topic of tuberculosis) for a video conference to physicians in Tbilisi, Georgia, the Former Soviet Union; and, an invited grand rounds speaker at the William Beaumont Army Medical Center in El Paso, Texas. Colonel Aronson successfully competed for the Pfizer Visiting Professorship in Infectious Disease to bring Dr. Anthony Bryceson from the London School for Tropical Medicine and Hygiene to USU during April of 2002. Colonel Aronson was also selected to serve as the Chair of the Institutional Review Board for the Sequelae Global Tuberculosis Foundation. Her scientific works were published in a variety of journals: Journal of Clinical Gastroenterology, Military Medicine, Nature Medicine, and the American Journal of Tropical Medicine and Hygiene; also, she served as the Infectious Disease Section Coordinator for the *Special Operations Forces Medical Handbook and CDS-ROM 2001.*

Major Steven Durning, USAF, MC, Assistant Professor, USU SOM Department of Medicine, was promoted to Fellow, American College of Physicians; he received the Meritorious Service Medal from the Wright-Patterson Air Force Base; and, he was selected to be a member of the Evaluation and Research Committee of the Clerkship Directors of Internal Medicine. Major Durning is a well known and often requested speaker at state and national meetings of medical educators as well as clinicians. He recently published articles on medical resident performance on ABIM certifying exams in Military Medicine and in Academic Medicine. Additionally, Major Durning published articles on thyroid cancer in Thyroid and Clinical Infectious Diseases; and, he was invited to submit manuscripts for Medical Education on the educational value of humanitarian assistance missions in internal medicine training.

Major Stephen Hanlon, USAF, MC, Assistant Professor, USU SOM Department of Medicine, was selected as a Finalist in the Junior Faculty Division of the AstraZeneca Young Investigator's Competition. His winning paper was submitted to the Journal of the American College of Cardiology.

Lieutenant Colonel Paul A. Hemmer, USAF, MC, Assistant Professor, USU SOM Department of Medicine, received two significant awards in 2001: the USU Department of Medicine's Fourth Annual John F. Maher Award for Research Excellence and the Clerkship Directors in Internal Medicine Outstanding Educational Research Award. Doctor Hemmer's research in the field of medical education, specifically student evaluation, assessment, and professionalism has been well received in numerous poster presentations, lectures, and publications such as Teaching and Learning in Medicine, Medical Teacher, the Southern Journal of Medicine, Academic Medicine, and the Journal of General Internal Medicine. For example, Doctor Hemmer's paper entitled "Assessing How Well Three Evaluation Methods Detect Deficiencies in Medical Students' Professionalism in Two Settings of an Internal Medicine Clerkship" was published in Academic Medicine, 2000, Volume 75, pages 167-71.

Przemyslaw Hirszel, M.D., Professor and Director, Division of Nephrology, USU SOM Department of Medicine, continued to serve as a valued member of the Department of Medicine's Executive Committee and as a mentor to junior faculty members, guiding them in their research endeavors. He also served on several University and SOM Committees, including the Search Committee for the Dean, SOM.

Lieutenant Colonel Jeffrey L. Jackson, MC, USA, Associate Professor and Director, Division of General Internal Medicine, USU SOM Department of Medicine, received recognition for his extensive contributions through his promotion to Associate Professor of Medicine; he was also awarded the Joint Services Achievement Medal; and, he was named the Program Chair for the Society of General Internal Medicine's 2002 National Meeting. He successfully mentored several Fellows in the General Internal Medicine Fellowship Program; and, he presented papers and posters at several scientific programs. His work in the fields of medical outcomes, patient satisfaction, faculty development, and alternative health practices appeared in the American Journal of Medicine, the Annals of Internal Medicine, and the Archives of Internal Medicine. Lieutenant Colonel Jackson was interviewed by Reuter's News Magazine and Prevention Magazine. Two of his articles on fibromyalgia were selected by the American College of Physicians Journal Club in 2001 (the American College of Physicians selects and reviews approximately 30 articles published in the last quarter which are deemed to be most interesting to the ACP membership). His article, "Anti-depressants in the Management of Patients with Functional Gastrointestinal Disorders," appeared in the American Journal of Medicine during 2001.

Louis Pangaro, M.D., Professor and Vice Chair, Educational Programs, USU SOM Department of Medicine, was the inaugural recipient of the USU Carol Johns Medal as the Outstanding USU Faculty Member for 2001. Dr. Pangaro serves on the Research Advisory Committee of Academic Medicine; on the Internal Research Review Committee, National Board of Medical Examiners; as the Co-Director, Course for Residency and Fellowships Program Directors, National Capital Consortium; and, on the Research in Education Committee of the GEA/AAMC. He is highly sought for his expertise on the evaluation of students, having presented at the Georgetown University, Johns Hopkins University, Boston University, and the Memorial University of Newfoundland. In addition, he has lectured to clerkship directors at the annual CDIM (Clerkship Directors/Internal Medicine) meeting, as well as to staff at affiliated hospitals. Dr. Pangaro wrote over a dozen publications during 2001 which were published in Academic Medicine, CDIM News, Teach and Learn Medicine, Thyroid, and JAMA, the Journal of the American Medical Association.

Matthew Pollack, M.D., Division of Infectious Diseases, USU SOM Department of Medicine, published extensively in the fields of bacterial diseases, P. aeruginosa, endotoxin, sepsis, hemorrhagic shock, and cytokines. His articles appeared in Infection and Immunology, Cytokine, and Microbiology and Immunology. His research in cytokines and hemorrhagic shock has significant implications for military medicine since shock continues to be one of the most common and serious consequences of battlefield injury and one of the most frequent causes of death.

Lieutenant Colonel Michael Roy, MC, USA, USU SOM Department of Medicine, was awarded the Joint Service Achievement Medal and the Joint Service Commendation Medal. His work in the areas of operational medicine and humanitarian assistance has been published in the *Special Operations Forces Medical Handbook* and Military Medicine. He has presented poster sessions and lectured extensively on these subjects at conferences and grand rounds. Additionally, he presented on his study of "DEET and Permethrin Under Stress Conditions" at the Annual Meeting of the Army American College of Physicians, American Society of Internal Medicine Meeting. And, he presented on the subject of "Bioterrorism - What Every Internist Should Know" at the D.C. Chapter, Scientific Meeting, American College of Physicians, American Society of Internal Medicine.

Major Steve Salerno, MC, USA, Assistant Professor, USU SOM Department of Medicine, presented, "Effect of a Faculty Development Workshop on the Amount and Quality of Feedback," at the meeting of the Society of General Internal Medicine. The presentation won the Milton Hamolsky Award for Outstanding Research by a Junior Faculty Member. Contributing to the presentation were **Major Patrick O'Malley, MC, USA, Assistant Professor; Colonel Louis Pangaro, MC, USA, Professor;** and **Lieutenant Colonel Jeffrey L. Jackson, MC, USA, Associate Professor.** All are members of the USU SOM Department of Medicine.

Colonel George Tsokos, MC, USA, Professor, USU SOM Department of Medicine, was named **Vice Chair for Research Programs, Department of Medicine,** in October of 2001; in addition, he retained his position as **Director of the Division of Immunology and Rheumatology**. In recognition of his expertise in the area of immunology, Colonel Tsokos was appointed as a member of the National Institutes of Health (NIH) Immunological Sciences Study Section; and, he was elected Councilor/President for 2001-2006 of the Clinical Immunology Society. In addition, during 2001, he was elected as a member of: the Board of Directors of the Lupus Foundation of America; the Arthritis Foundation Immunology Study Section; and, the Abstract Selection Committee of the National American College of Rheumatology. Colonel Tsokos serves as editor, or guest editor, of numerous publications such as the International Reviews in Immunology, Trends in Molecular Medicine, Journal of Immunology, Clinical and Diagnostic Laboratory Immunology, Lupus, Journal of Investigative Medicine, Clinical Immunology, and as Chair of the Editorial Board of Lupus News. He is the Editor-in-Chief of Modern Therapeutics in Rheumatic Diseases, and has contributed chapters in several books. He is a much sought after speaker on the topic of Lupus and other immunological diseases. He currently holds three NIH RO1 grants and one grant from the Medical Research Materiel Command.

Colonel Roy K.H. Wong, MC, USA, Director, Division of Gastroenterology, USU SOM Department of Medicine, was elected to the Organisation mondiale d'Etudes Specialisees sur les Maladies de l'Oesophage (OESO). He is also a recipient of the James Leonard Award for Excellence in Teaching Internal Medicine (presented on January 19, 2001), as well as the Outstanding Lecturer in Clinical Concepts. He was awarded several research grants from professional societies and the National Institutes of Health. Colonel Wong is an active leader in many professional societies and serves as the: Chair of the Board of Governors of the American College of Gastroenterology; Chairman of the Abstracts Selection Committee, ASGE/DDW; Chairman of the Credentials Committee for the ACG; and, a member, Permanent Scientific, OESO. Colonel Wong has presented numerous scientific papers and published articles on the topics of colonic Neoplasia, achalasia, Barrett's Esophagus, and other diseases of the gastrointestinal tract. These articles appeared in well known peer-reviewed journals such as Gastroenterology, Gastrointestinal Endoscopy, and Gastrointestinal Endoscopy Clinics of North America. In November of 2001, Colonel Wong was an invited guest lecturer at the 18th MEDCOM Health Education Conference held in Seoul, Korea.

Joyce Hoopengardner, Clerkship Administrator, USU SOM Department of Medicine, served on a panel of administrative staff at the Annual Meeting of Clerkship Directors of Internal Medicine (CDIM), in Tucson, Arizona, in October of 2001.

Solomon Levy, MPH, Research Assistant Professor and Deputy Chair, Administration, USU SOM Department of Medicine, made a presentation entitled, "USUHS: Your Federal Medical School," at the Annual Meeting of the Administrators of Internal Medicine, in Tucson, Arizona, in October of 2001.

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Microbiology and Immunology - School of Medicine.

Christopher C. Broder, Ph.D., Associate Professor, USU SOM Department of Microbiology and Immunology, has, as his major research focus, the structural and functional analyses on the interactions between enveloped viruses and their cellular receptors. Human immunodeficiency virus (HIV) and new emerging paramyxovirus agents are the two main areas of Doctor Broder's present research work. HIV Focus. The goals of Doctor Broder's work are to identify the steps and requirements of viral envelope glycoprotein (Env)-mediated membrane fusion, the determinants of viral tropism, the discovery of new viral receptors, and the mechanism of Env-mediated fusion. A detailed understanding of these processes should lead to the discovery of new methods of intervention. Doctor Broder's laboratory, in collaboration with other USU laboratories, is pursuing novel prime-boost HIV-1 vaccination strategies, with particular HIV-1 isolate Env proteins, using Venezuelan Equine Encephalitis (VEE) replicons and soluble oligomeric gp140 immunogen preparations in small animals and non-human primates. Hendra Virus and Nipah Viruses. the second area of work is the investigation of the Hendra virus and the Nipah virus, which are newly emerging and highly lethal zoonotic agents. These studies are in collaboration with several scientists located at the Australian Animal Health Laboratory located in Geelong, Australia. Both viruses are classified as zoonotic BSL-4 agents. Hendra virus emerged in 1994 and was isolated from fatal cases of respiratory disease in horses and humans. Later in 1998-1999, an outbreak of severe encephalitis in people with close contact exposure to pigs in Malaysia and Singapore occurred. In all, more than 276 cases of encephalitis, including 106 deaths, were reported, with nearly a 40 percent fatality rate upon infection. Pigs appeared to be an amplifier of the Nipah virus and these viruses can also be economically devastating; for example, over 1.2 million pigs were slaughtered to stem the Nipah virus outbreak. They appear to infect through the respiratory system initially and are capable of causing viremia. The potential for these viruses to be weaponized and used as biological warfare agents is clearly possible. They may be amplified in cell culture or embryonated chicken eggs and could be used as a terror weapon targeting humans as well as livestock, the later which would serve as virus amplifiers. Doctor Broder's group has developed recombinant systems to study the attachment and membrane fusion-entry mechanisms of these viruses; and they have developed novel reagents which may serve as potential vaccines as well as those which can specifically block virus infection and its spread. Doctor Broder co-authored and published three articles during 2001, in major, peer-reviewed publications.

William C. Gause, Ph.D., Professor, Department of Microbiology and Immunology, conducts research which involves the study of T- cell differentiation during infectious disease. His work focuses on the T-cell immune response triggered by infection with parasites, particularly intestinal nematode parasites. Chronic malnutrition induced by infection with gastrointestinal parasites causes great morbidity and increased susceptibility to infectious agents. **With over one billion individuals currently infected with intestinal nematode parasites, this is a major world health problem.** Immunological intervention may promote control in situations where gastrointestinal parasitism is endemic and intractable. The T-cell response which develops following intestinal nematode infection (the T helper 2 response) is qualitatively

different than T-cell responses which occur to many bacteria and viruses (the T helper 1 response). Understanding these mechanisms should provide information required to manipulate the development of the immune response so that a protective response is favored against particular infectious agents. Such knowledge can be used to develop novel immunotherapies and for the creation of the next generation of vaccines. Doctor Gause authored or co-authored, five articles and manuscripts during 2001 which appeared in peer-reviewed journals or publications.

Chou-Zen Giam, Ph.D., Professor, USU SOM Department of Microbiology and Immunology, conducts research focused on the molecular biology of human retroviruses: HTLV-I and HIV, and the Kaposi's sarcoma-associated herpesvirus (KSHV/HHV8), with a special focus on viral regulatory proteins and their interaction with cellular transcription factors or signaling molecules. The diseases caused by the human T-lymphotropic virus type I (HTLV-I): adult T-cell leukemia (ATL) and tropical spastic paraparesis/HTLV-I associated myelopathy (HAM/TSP), have their etiologies in the dysregulated proliferation of T-cells. HTLV-I encodes a critical trans-activator, Tax, which augments HTLV-I viral mRNA transcription greatly and usurps regulatory mechanisms critical for cell activation and division to facilitate viral replication. Research results from Doctor Giam's laboratory indicate that Tax, in essence, functions as a virus-specific adaptor protein which connects the transcriptional co-activators to cellular transcription factors. Current efforts in Doctor Giam's laboratory are directed towards elucidating the role of Tax-PP2A interaction/inhibition in the activation of cellular signal transduction pathways, cell cycle perturbations, and T-cell leukemogenesis. And, the association of a newly discovered human herpesvirus, KSHV/HHV8, with Kaposi's sarcoma is also being investigated by analyzing a series of AIDS-related and endemic Kaposi's sarcoma samples including tumor biopsies and patient sera recruited from Uganda. The major emphasis for this project is on genes important for KSHV/HHV8 transcription, viral re-activation from latency, and Kaposi's sarcoma tumorigenesis. During 2001, Doctor Giam co-authored four publications and manuscripts which appeared in (or, are in preparation for) peer-reviewed journals or publications.

Ann E. Jerse, Ph.D., Assistant Professor, USU SOM Department of Microbiology and Immunology, conducts research focused on the mechanisms by which *Neisseria gonorrhoeae* adapts to the female genital tract. The primary research tool used by Doctor Jerse and her staff to address this question is a female mouse model of gonococcal genital tract infection which was developed in Doctor Jerse's laboratory. Doctor Jerse also utilizes this model to study interactions between *N. gonorrhoeae* and certain commensal flora which have been proposed to protect against gonorrhea. A second research area in her laboratory is the development of vaccines and topical microbicides to prevent gonorrhea. Over 400,000 cases of gonorrhea are reported in the United States and an estimated 67 million cases occur world-wide annually. Public health efforts to reduce the incidence of gonorrhea are challenged by the high rate of asymptomatic infection and the emergence of upper reproductive tract infection in females. Over two million cases of pelvic inflammatory disease (PID) occur in the United States each year, approximately 50 percent of which is due to *N. gonorrhoeae.* **Gonorrhea ranks high among infections important to the military, second only to chlamydia among reportable infections.** Over 1,500 cases of gonorrhea were reported in the United States Army in 1997. Upper reproductive tract infection is a serious form of gonorrhea in both men and women. In one study of a military population, 16 percent of acute epididymitis was due to *N. gonorrhoeae.* Pathogenesis studies performed in Doctor Jerse's laboratory will enhance the understanding of how *N. gonorrhoeae* persists in the genital tract to create a reservoir of infection in the community and will potentially lead to the identification of virulence factors

which could be used in a vaccine. **Doctor Jerse's work towards developing a vaccine and topical microbicides against gonorrhea is directly relevant to reducing the incidence and costs associated with gonorrhea in military personnel and their dependents.** During 2001, Doctor Jerse co-authored three publications and manuscripts which appeared in peer-reviewed journals or publications.

Guangyong Ji, Ph.D., Assistant Professor, USU SOM Department of Microbiology and Immunology, conducts research which is focused on defining the molecular mechanism of staphylococcal pathogenesis. Currently, the research focuses on the study of peptide-determined auto-induction of virulence gene expression in *Staphylococcus aureus* and the elucidation of the role of this regulation in the pathogenesis of *S. aureus* diseases. *S. aureus* is among the most prominent of nosocomial bacterial pathogens, causing a variety of human diseases ranging from superficial abscesses to life-threatening deep infections, such as endocarditis and pneumonia. The problem has become alarming within the last few years due to the increasing resistance of *S. aureus* to all currently available antibiotics, including vancomycin, an antibiotic which is the last effective drug for treating multi-drug-resistant *S. aureus* infections. *S. aureus* pathogenicity is mult-factorial and involves the production of secreted toxins, enzymes, and cell wall-associated proteins. The expression of most of these virulence factors is regulated by a global regulator which consists of a two-component signal transduction system, a modified auto-inducing peptide, and an RNA molecule which is the actual effector of the virulence response. The studies in Doctor Ji's laboratory on the understanding of staphylococcal virulence regulation may lead to the development of new antibacterial drugs which target this regulatory system.

Susan G. Langreth, Ph.D., Associate Professor, USU SOM Department of Microbiology and Immunology, conducts research with a major focus on Unicellular Parasite Pathogenesis. The long-term objectives are to understand the mechanisms of pathogenesis and immunity in *Plasmodium* and *Pneumocystis* parasites and to identify critical host parasite interactions which may contribute to the development of vaccines or more effective chemotherapy. The emphasis of the approach is to locate and characterize, by immuno-cytochemistry and electron microscopy, particular antigens/peptides/expressed gene products in the human malaria parasite *Plasmodium falciparum* and its host erythrocyte. Of particular interest are antigens on the infected erythrocyte surface which may be mediators of cyto-adherence and sequestration. Parasite isolates or clones with altered expression of surface components (knob structures, in vitro cyto-adherence) are being compared with wild type parasites. Malarial antigens associated with infected erythrocyte cytoplasmic structures (Maurer's clefts, parasitophorous vacuoles, etc.) are also being characterized. *Pneumoncystis carinii* (Pc) is an opportunistic unicellular pathogen and a major cause of morbidity and mortality in AIDS patients. Doctor Langreth is studying Pc pathogenesis in an immuno-suppressed rat model and is engaged in collaborative projects to develop axenic long-term culture methods for *Pneumocystis*, using organisms harvested from infected immuno-suppressed rats as a source. She is generating methods to harvest and purify the pathogen from rat lung, for cultivation and for biochemical and immuno-cytochemical analysis. Establishment of a culture for Pc will provide basic information about the parasite's life cycle and nutritional requirements, as well as provide a reliable source of the organisms for chemotherapy and molecular studies.

Anthony T. Maurelli, Ph.D., Professor, USU SOM Department of Microbiology and Immunology, conducts his research with a focus on understanding the genetics of bacterial pathogenesis, that is, determining which genes are important for making a bacteria a pathogen and how expression of

these genes enables the bacteria to cause disease. Doctor Maurelli's research focuses on two groups of bacteria: *Shigella* spp. and *Chlamydia* spp. Bacteria of the genus *Shigella* are the causative agents of bacillary dysentery (shigellosis). Dysentery is an acute diarrheal disease which has a major impact on public health in developing countries, particularly among young children. Even in developed countries, dysentery due to *Shigella* causes significant morbidity each year. For military planners, **diarrheal diseases such as dysentery have historically been of particular concern during large-scale deployments**. Experiences during World War II, the Vietnam War, and the Gulf War demonstrated that outbreaks of diarrhea and dysentery among troops seriously degrade combat readiness. The development of vaccines to protect against dysentery, as well as better methods of treatment, depends on a better understanding of the bacteria responsible for the disease. Bacteria of the genus *Chlamydia* are responsible for a wide range of diseases in man. *Chlamydia trachomatis* is the number one bacterial cause of sexually transmitted disease in the United States. It is also the major cause of preventable blindness in developing countries. Other bacteria of the genus *Chlamydia* are responsible for diseases including pneumonia and ocular disease in neonates and adults. *Chlamydia pneumoniae* is suspected to be a co-factor in a variety of chronic diseases including atherosclerosis. A major barrier to understanding how *Chlamydia* can cause such a broad range of diseases is the absence of genetic tools for studying the organism. A major focus of Doctor Maurelli's research is to develop these tools so that the power of molecular genetics can be applied to understanding *Chlamydia* pathogenesis. The potential impact of such research is through better diagnostic tools, improved prevention, and treatment methods.

Eleanor S. Metcalf, Ph.D., Professor, USU SOM Department of Microbiology and Immunology, conducts research with three major focuses. The first focus is on Typhoid Fever. The long-range goal of this component is to understand the virulence mechanisms of *S. typhi* in the context of the host environment, with the overall objective of reducing the morbidity and mortality from enteric fevers such as typhoid. Recent studies show that more than 16.6 million people currently have typhoid fever world-wide, and at least 600,000 of these individuals will die. The majority of typhoid fever cases occur in children from the ages of 3 to 19; and, mortality rates range from 5 to 12 percent, depending on the country. Moreover, many isolates of *Salmonella enterica* serovar Typhi (*S. typhi*), the etiologic agent of typhoid fever, have become resistant to multiple antibiotics, and resistance to first-line antibiotics is wide-spread in countries where typhoid fever is endemic. These factors underline the importance of, and the necessity to develop, inexpensive and readily administered vaccines as one important control strategy for combating this disease. *S. typhi*, as well as other enteric bacterial infections, are, and have been responsible for, morbidity and mortality of troops stationed in countries with underdeveloped health and hygiene practices. The results of these studies will provide new information on the infectious processes of *S. typhi* and increase the knowledge about typhoid fever. In addition, these studies will increase the knowledge of *S. typhi* which could be important in the development of new *S. typhi* vaccines. The second focus in the laboratory is on Food Poisoning, the long range goal of these studies is to understand the role of T-cells in *Salmonella typhimurium* pathogenesis. The objective of these studies is to analyze the contribution of CD8+ CTLs in the host response to *Salmonella*. In the United States, *Salmonella spp.* causes an estimated two to four million cases of salmonellosis every year which results in approximately 500 deaths. These organisms are the principal etiologic agents of gastroenteritis and enteric fever. It has been estimated that salmonellosis costs up to $50 million per year in the United States as a result of medical costs and work absences. One resolution to this problem is vaccination. While one strategy for the generation of efficacious vaccines is to identify virulence factors on the bacterium, another approach to treatment is to understand the host response to this pathogen. If the role of cytotoxic T lymphocytes in the host response can be identified and the antigens that these T-cells recognize can be characterized,

we may be able to manipulate the outcome of exposure to these pathogens. Current studies address the role of cytotoxic T-cells in *Salmonella* infections. *Salmonella typhimurium*, as well as other enteric bacterial infections, are, and have been responsible for, morbidity and mortality of troops stationed in countries with underdeveloped health and hygiene practices. The results of this proposal will provide new information on the infectious processes of *S. typhimurium* and increase the knowledge about the generation of protective immune responses and the pathogenesis of this organism. The third focus is Alcoholic Liver Disease (ALD), the long range goal of this research endeavor is to understand mechanisms of the host response which contribute to the pathophysiology of ALD and the inflammatory syndrome associated with alcohol-induced liver damage. ALD is a significant problem in the United States. Over 50 percent of adults consume alcoholic beverages on a regular basis. Of these individuals, at least 14 million people either depend on, or abuse, alcohol. Studies show that alcoholism accounts for greater than 120,000 deaths annually, and in 1998, the economic burden of alcohol-related issues was greater than 184.6 billion dollars. This cost is approximately 12 percent of the Gross National Product (GNP) and represents an expenditure of approximately $638 dollars for every man, woman, and child in the United States. ALD is a significant problem in the United States and in the Uniformed Services. Recent evidence indicates that military and civilian populations have similar incidences of alcohol abuse. Since studies also show that the rate of alcohol abuse for both men and women within the military is similar, **alcohol-related health problems are clearly a significant problem for the Uniformed Services**. To date, treatment regimens have been generally ineffective, in part, due to a lack of understanding of the mechanisms which underlie ALD. Since interventions which focus on early steps in the development of ALD would be the most desirable, Doctor Metcalf's studies of the effects of alcohol on the initial cell types involved in this complex set of reactions should provide crucial data applicable to the development of successful interventions. Doctor Metcalf published two articles during 2001 in peer-reviewed publications.

Alison D. O'Brien, Professor and Chair, USU SOM Department of Microbiology and Immunology, continued her major research focus on the pathogenesis of bacterial infections. Specifically, her laboratory investigates the virulence mechanisms of *E. coli* 0157:H7 and other Shiga toxin-producing *E. coli* and the contribution of the Rho-modifying Cytotoxic Necrotizing Factor (CNF) to urinary tract infections and prostatitis caused by uropathogenic *E. coli*. Shiga toxin-producing *E. Coli* (STEC) cause food- and water-borne outbreaks and sporadic cases of intestinal disease which manifest as diarrhea, and/or bloody diarrhea (hemorrhagic colitis, HC). About five to ten percent of children infected with STEC can subsequently develop a life-threatening kidney dysfunction called hemolytic uremic syndrome (HUS). Two important virulence factors associated with many STEC strains are the Shiga toxins (Stxs) and the adhesin, intimin. The long-term objectives of this project are to define the pathogenic mechanisms by which STEC cause disease and to develop strategies for the prevention and treatment of STEC-mediated hemolytic uremic syndrome. Military Relevance: *E. coli* 0157:H7 has the potential to simultaneously infect large numbers of people who ingest as few as 100 organisms in common source food- or water-borne outbreaks (for example, a July 1996 outbreak in Japan affected more than 10,000 people). In addition, the rate of secondary transmission of *E. coli* 0157:H7 is high. **Therefore, large-scale infection of soldiers with *E. Coli* 0157:H7 or another Shiga-toxin producing *E. coli* isolate would likely result in an incapacitating illness among troops.** Furthermore, Shiga toxin and other Stx family members are considered potential biological warfare/terrorist threats as indicated by the Centers for Disease Control-mandated restrictions on the shipment of Stxs and Stx-expressing clones. Another area of focus for Doctor O'Brien's research is Cytotoxic necrotizing factor type 1 (CNF1) which is a member of a family of bacterial toxins which target the Rho family of small GTP-binding proteins in mammalian cells. CNF1

is frequently produced by *Escherichia coli* strains which cause urinary tract infections. Military Relevance: Urinary tract infections (UTIs), of which more than 80 percent are caused by *E. coli*, are among the common types of bacterial disease in adults. Women are much more likely to have UTIs than are men, a gender disparity that is believed to result from the shorter female urethra. Indeed, as many as 20 percent of all women have at least one episode of UTI in their lifetime, and recurrent UTIs affect approximately one in ten women in the United States. Thus, UTIs which include infections of the bladder (cystitis) and kidney (pyelonephritis), are a significant source of morbidity among women in the military. During 2001, Doctor O'Brien co-authored and published ten articles and manuscripts in peer-reviewed primary journals and textbooks.

Paul D. Rick, Ph.D., Professor and Vice Chair, USU SOM Department of Microbiology and Immunology, conducts research with long term goals to gain a more complete understanding of the function of the outer membrane (OM) of Gram-negative enteric bacteria and the mechanisms involved in its biogenesis. Gram-negative bacteria belong to the family *Enterobacteriaceae*, and members of this family are found as normal flora in the gastrointestinal tract of man and animals. In contrast, many other members of this family are pathogens capable of causing serious debilitating disease in human and animal hosts. Indeed, many of these (e.g., diarrheal diseases, Gram-negative septic shock, etc.) are of significant military relevance. The cell-envelope of Gram-negative enteric bacteria consists of a cytoplasmic membrane, the rigid cell wall or peptidoglycan layer, and the OM. The OM of all Gram-negative bacteria constitutes a permeability barrier to a wide variety of deleterious agents. Indeed, the ability of these organisms to grow in the presence of bile salts in the gastrointestinal tract and the relative resistance of these organisms to many hydrophobic antibiotics is attributable to the barrier function of the OM. As an approach to understanding the function of the OM in Gram-negative enteric bacteria, Doctor Rick has investigated the biochemistry and genetics of enterobacterial common antigen (ECA) synthesis and assembly in *Escherichia coli* and closely-related bacteria. ECA is an OM glycolipid which is unique to Gram-negative enteric bacteria, and it is present in all members of this important family. Studies, to date, have identified almost all of the genes involved in ECA assembly; and, biochemical studies have unraveled the functions of many of these genes. In contrast, the function of ECA has remained enigmatic in spite of its ubiquitous occurrence in all members of the *Enterobacteriaceae*. Accordingly, Doctor Rick's research is also concerned with elucidating the function of ECA. In this regard, recent studies have revealed that ECA is required for the resistance of Gram-negative bacteria to bile salts. It is anticipated that Doctor Rick's research will provide valuable insights into the assembly of other outer membrane glycolipids and polysaccharides. Indeed, such information will also provide a rationale for the development of new antimicrobial agents. Doctor Rick co-authored one article during 2001 which was published in a peer-reviewed publication.

Stefanie N. Vogel, Ph.D., Professor, USU SOM Department of Microbiology and Immunology, conducts research directed at the regulation of inflammatory responses by the induction of pro- and anti-inflammatory cytokines and other bioactive agents. Specifically, her work focuses on the molecular regulation of cytokine gene expression induced by bacterial agents, such as Gram negative lipopolysaccharide and Gram positive mycobacterial products on macrophages, major producers of the bioactive substances required for sustained inflammatory responses. The role of the Toll-like receptors (TLRs) in this process is a major focus of her work and the interaction of TLRs with other co-receptors expressed on macrophages (e.g., CD14 and CD11b/CD18) is an area which is currently being actively investigated. In addition to examining the induction of pro-inflammatory gene products, Doctor Vogel's

work has focused on a phenomenon called "endotoxin tolerance" in which cells and mice exposed to Gram negative LPS exhibit subsequent refractoriness to a secondary inflammatory stimulus to produce certain inflammatory cytokines. If we could unravel the underlying mechanisms for the induction and maintenance of endotoxin tolerance, it might lead to the identification of novel targets for anti-inflammatory therapy. Lastly, Doctor Vogel's work has more recently been extended to the role of the inflammatory response in stroke. Briefly, this laboratory has identified several inflammatory genes and nuclear transacting factors which regulated the inflammation which contributes to increased stroke volume. Although antibiotic therapy and mechanical support for patients with sepsis have improved in intensive care wards over the past 50 years, the mortality associated with bacterial sepsis has not diminished significantly. By understanding the fundamental inflammatory response associated with this syndrome, we may be able to impact public health significantly by developing new approaches for intervention. Sepsis is often a sequelae of battle wounds; both civilian and military populations suffer from sepsis, stroke, and other diseases with pro-inflammatory components. During 2001, Doctor Vogel authored, or co-authored, 13 articles and manuscripts which were published in peer-reviewed publications.

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Military and Emergency Medicine - School of Medicine.

Patricia A. Deuster, Ph.D., Professor, USU SOM Department of Military and Emergency Medicine, was appointed as the Director of a new Division in the Department of Military and Emergency Medicine. The former Research Division in the Department has been changed to the Applied Human Biology Division and now includes the Human Performance Laboratory (HPL), the Casualty Care Research Center (CCRC), and the Center for Disaster and Humanitarian Assistance Medicine (CDHAM). The new division title better describes the research, education, and service activities of the three subordinate elements of the Division; and, it identifies the Applied Human Biology Division as a significant interface between USU, the Uniformed Services, the DoD Medical Departments, as well as other Federal entities which conduct studies, research, and educational programs in applied human biology. Doctor Deuster also received notification in February of 2001 that the Department's work on the *Navy Health Promotion Manuals* has been very well received: 1) the Coast Guard has obtained the manuals and is changing the word "Navy" to Coast Guard so that they can distribute the Manual to their personnel; the Coast Guard Health Promotion Specialist coordinated with Doctor Deuster to make this possible; 2) the Marine Corps Institute has also obtained copies and will change the word "Navy" to Marines; they were pleased to be able to easily adapt and utilize the Manuals for their personnel. As pointed out by **Colonel Clifford C. Cloonan, MC, USA, Interim Department Chair,** the Special Operations Forces (SOF) consider Dr. Deuster and the HPL as extremely valuable assets not only to the University, but also to the Department of Defense; her research is timely and complete and meets the special requirements of the Uniformed Services.

Joseph J. Heck, M.D., Visiting Scientist and Medical Director of the USU Casualty Care Research Center, USU SOM Department of Military and Emergency Medicine, presented "Weapons of Mass Destruction: Emergency Department Preparation," at the 105th Annual Convention and Scientific Seminar of the American Osteopathic Association. *The American Osteopathic Association Conventioneer* also featured Doctor Heck's article focusing on the plans of national hospitals to deal with possible domestic terrorism events such as bombings and chemical and biological warfare attacks.

Lieutenant Colonel John Wightman, USAF, MC, Associate Professor, USU SOM Department of Military and Emergency Medicine, began 2001 having just completed a three-day pilot curriculum to prepare military emergency medicine residents for humanitarian missions. He and his co-investigator, **Dr. Michael VanRooyen, from the Johns Hopkins University Center for International Emergency, Disaster, and Refugee Studies**, will evaluate and complete the curriculum for nation-wide dissemination during 2002. In the Spring of 2001, he took five students to Fort Rucker, Alabama, where they were awarded Army Flight Surgeon Wings and opened up new educational ties between USU and the United States Army School of Aviation Medicine. At the graduation ceremonies in May, **the Class of 2001 honored Doctor Wightman with the William P. Clements Award as the Outstanding Military Educator.** Lieutenant Colonel Wightman is an internationally recognized expert in the emergency management of blast injuries, and has published a review article in the Annals of Emergency Medicine and chapters in the *Special Operations Forces Medical Handbook*, the *Operation Medicine CD-ROM*, and Rosen's Emergency Medicine Textbook. He is now the Director of the Education Division in the Department of Military and Emergency Medicine. His secondary duties include serving as the Exercise Director of Operation Bushmaster, the Course Director of Military Emergency Medicine, and the Deputy Medical Director of the tactical program of one of the Casualty Care Research Center's supported agencies. He is actively involved as an advisor and mentor to USU students and others from around the Nation through the Society for Academic Emergency Medicine's Virtual Advisor Program. He is also an Associate Editor for Critical Decisions in Emergency Medicine and the Journal of Special Operations Medicine.

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Neurology - School of Medicine.

Lieutenant Colonel Geoffrey Ling, MC, USA, Associate Professor, USU SOM Department of Neurology, was appointed as Vice Chair of the Neurology Department on February 1, 2001. Doctor Ling completed his under-graduate studies at Washington University, St. Louis; his Ph.D. at Cornell University in 1982; and, his M.D. Degree at Georgetown University, Washington, D.C., in 1989. He completed a neurology residency at the Walter Reed Army Medical Center from 1990 through 1993; and, a Fellowship in Neuroscience Clinical Care at Johns Hopkins University from 1993 through 1995. Doctor Ling's expertise is focused in the area of Critical Care Medicine and Neuro-Trauma, for which he is nationally recognized. Doctor Ling was elected as a member of the National Institutes of Health (NIH) Post-Resuscitation Utility of Life Saving Efforts (PULSE) Committee and, he has chaired the Trauma Section of the PULSE Committee. In addition, he has been appointed as a member of the Critical Care Executive Committee of the American Neurological Association; and, he provided briefings on the subject of brain injury to a congressional subcommittee during August of 2001. Doctor Ling was elected to Membership of the American Neurological Association, the induction into which requires recognition of significant scientific achievements by the American Academy of Neurology. Doctor Ling also published three papers on the subjects of leukemia and cerebral bleeding in the *Journals of Critical Care Medicine, Clinical Oncology, and Neurosurgery.*

Ann M. Marini, Ph.D., M.D., Associate Professor, USU SOM Department of Neurology, published three papers on the subjects of: hypoxic-ischemic neuronal damage; NMDA receptor-mediated

neuroprotection; and, neuroprotection in acute stroke in the Annals of the New York Academy of Science, the Journal of Neurochemistry, and the Journal of the American Medical Association. In addition, a paper on the subject of neuroprotection for traumatic brain injury was published in the Journal of Cancer Research and the Journal of Head Trauma Rehabilitation.

Deborah Warden, M.D., Associate Professor, USU SOM Department of Neurology, was the Moderator of Sessions during the International Brain Injury Association Meeting held in Turin, Italy, in May of 2001. During July of 2001, Doctor Warden was appointed by the President of USU as the Interim Director of the Defense and Veterans Head Injury Program. In this capacity, she oversees the function of seven DoD and Veterans Administration centers which provide patient care and conduct research on brain injury. Doctor Warden published two papers entitled "Persistent Prolongation of Simple Reaction Time in Sports Concussion," and "A Case Series Demonstrating a Relationship Between Somatic Symptoms and Impaired Recognition Memory Performance for Traumatic Brain Injured Individuals" in Neurology and Brain Injury.

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Obstetrics and Gynecology - School of Medicine.

The USU SOM Department of Obstetrics and Gynecology Successfully Utilizes Standardized Patients to Assure Mastery of Required Knowledge. (See Section II, page 126 for complete description)

The USU SOM Department of Obstetrics and Gynecology Has Initiated the Development and Implementation of an Innovative Clinical Clerkship Management Tool Utilizing Palm-Type, Hand-Held Computer Devices. (See Section II, page 126-127 for complete description)

Lieutenant Colonel Andrew Satin, USAF, MC, Professor and Vice-Chair, USU SOM Department of Obstetrics and Gynecology, USU Class of 1986, is the first graduate of the SOM to be promoted to the academic rank of Professor. In addition to his USU duties and his clinical care contributions as sub-specialist Maternal Fetal Medicine Consultant Faculty at the National Naval Medical Center, he is the Program Director for the Uniformed Services Residency in Obstetrics and Gynecology based at the National Naval Medical Center and the Walter Reed Army Medical Center under the institutional sponsorship of the USU-based National Capital Consortium. The site visit of the residency program conducted during 2001, resulted in the awarding of the maximum of five years of accreditation. This places the program among only nine Obstetrics and Gynecology Residency Programs to carry the maximum five-year accreditation among the more than 250 residencies in the United States. Of note, the average length of accreditation awarded by the OBG Residency Review Committee of the Accreditation Council for Graduate Medical Education is approximately 2.6 years.

James H. Segars, Jr., M.D., Associate Professor and Director of the Reproductive Endocrinology and Infertility Fellowship Program, USU SOM Department of Obstetrics and Gynecology, received the National Institutes of Health's Director's Award for Mentoring. This award was presented to Doctor Segars on July 11, 2001, during a ceremony at the National Institutes of Health.

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Pathology - School of Medicine.

Colonel Richard M. Conran, MC, USA, Professor and Course Director for the second-year Pathology Course and the Fundamentals of Infectious Disease Course, USU SOM Department of Pathology, generated significant savings for the University through the development and revision of the CD for the Pathology Courses which is provided to second-year students. Colonel Conran served as the President of the USU Faculty Senate from mid-2000 through 2001; and, he currently serves as the Post-President of the Faculty Senate. Colonel Conran also serves on numerous University Committees and as a member of the Walter Reed Army Medical Center Human Use Committee. He presents lectures in Pathology, Infectious Diseases, Biochemistry, and Pediatric Pathology at the University and at the Walter Reed Army Medical Center. He also provides a lecture on the Legal Aspects of Biowarfare and Bioterrorism.

Mary Lou Cutler, Ph.D., Associate Director for Basic Science, United States Military Cancer Institute, Associate Professor of Pathology, Assistant Professor of Molecular and Cellular Biology, Co-Director, Pathology Graduate Program, USU SOM Department of Pathology, is also the co-author of the Department of Pathology Graduate Program Self-Study Report. Doctor Cutler lectures on *Genetics of Human Cancer: Oncogenes*. She also serves on the following committees and boards: Graduate Student Advisory Committee; Ph.D. Comprehensive Exams Committee; Ph.D. Advisory for Graduate Student and Post-Doctoral Training Committee; the Biohazards, Controlled Substances, and Dangerous Materials Committee; the Sub-committee on Graduate Student Recruitment; and, the Merit Review Committee. Doctor Cutler mentors students for the following: Ph.D. thesis research; three-month rotations in the laboratory; Post-Doctoral Fellows on two- or three-year research projects; and, summer students. Doctor Cutler also organizes the Pathology Seminar Series. Her community service comprises: Member of the Board of Trustees, Washington Episcopal School, Bethesda, Maryland; Chair of the Trustees Academic Program Committee, Washington Episcopal School, Bethesda, Maryland; and, the Board of Advisors, of the Washington Episcopal School in Bethesda, Maryland. She serves as an editor for the following professional journals: *Proceedings of the National Academy of Science, Molecular and Cellular Biology, Cell Growth and Differentation, Breast Cancer Research and Treatment*, the *Journal of the National Cancer Institute*, the *Journal of Cell Physiology*, and *Oncogene*. She has served on the Review Boards of the Biomedical A Study Section, the State of California Cancer Research Program, and as an *ad hoc* member of the National Institutes of Health, BCDN 3 Study Section, the Molecular Biology Advisory Committee, and the American Type Culture Collection. Her professional affiliations include membership in the: Molecular Biology Advisory Committee; American Type Culture Collection; American Association for the Advancement of Science; American Association for Cancer Research; Women in Cancer Research; American Society for Microbiology; Breast Cancer Think Tank; and, the National Institutes of Health's Special Interest Group.

Robert M. Friedman, M.D., Professor and Chair, USU SOM Department of Pathology, is currently engaged in the investigation of cellular growth factors which are involved in the malignant transformation of normal cells into cancers. One such factor is IRF-1, which had been considered to be a negative regulator of cell growth (a tumor suppressor gene). Doctor Friedman's group **(Sara Contente, Ph.D., Research Assistant Professor; Frank Attard; Annie Yeh; and, Dorothy Buchhagen)** have found that a truncated form of IRF-1, termed spliced IRF-1 or SIRF-1, is made in both cancer and normal cells; however, in the latter, its production is closely regulated so that it is produced when cells replicate. In cancer cells, on the other hand, it is constantly produced, presumably because such cells do not cease multiplying. SIRF-1, therefore, appears to be a growth factor associated with cell replication, an oncogene. Its regulation may play a significant role in the process of the transformation of cells from a benign to a malignant state.

Philip M. Grimley, M.D., Professor, USU SOM Department of Pathology, is currently engaged in two lines of research: 1) Tests of a novel method for enhancing the cytotoxic effect of certain non-genotoxic kinase inhibitors on lymphoma cells and epithelial cancer cells. This method involves a dynamic retardation of the cell cycle by DNA metabolic inhibitors and was patented in 2001, under the auspices of the Henry M. Jackson Foundation; and, 2) Investigations of a phenolic compound which can enable the survival of cells deprived of growth factors or exposed to certain cytotoxic agents or cytokines. Work, thus far, indicates that this pro-survival compound may simultaneously activate several pathways engaged in stimulating cell growth or preventing apoptosis. Elucidation of its effects may suggest new approaches to the prevention or treatment of hypovolemic or septic shock. As a member of the College of American Pathologists (CAP), Doctor Grimley continues to serve as the Maryland State Commissioner for the CAP Laboratory Accreditation Program.

Elliott Kagan, M.D., F.R.C. Pathology, Professor of Pathology, Preventive Medicine and Biometrics, and Emerging Infectious Diseases, USU SOM Department of Pathology, was appointed as an *ad hoc* member of the Chemical Pathology Study Section, Oncological Sciences Integrated Review Group of the National Institutes of Health in January and October of 2001. He is also a permanent member and Chairman-Elect of the Technical Review Panel, Nebraska Cancer and Smoking Disease Research Program. Doctor Kagan was also appointed as an *ad hoc* member of the Cooperative Grants Program of the United States Civilian Research and Development Foundation in July of 2001. His current research, which is funded by the Department of Defense, concerns the pathogenesis of filovirus infections and makes use of a novel, air-liquid interface bronchial epithelial cell culture system for studying the effects of aerosol challenge by threat agents such as the Ebola virus. In January of 2001, Doctor Kagen was an invited seminar speaker at the United States Naval War College in Newport, Rhode Island, where he spoke on "Bioregulators as Instruments of Terror." He was also an invited platform speaker in April of 2001, in Chicago, Illinois, at the First International Conference on Malignant Mesothelioma - Therapeutic Options and Role of SV40. The title of his presentation was "Asbestos-induced Malignant Mesothelioma." During 2001, Doctor Kagen also authored the publication, "Bioregulators as Instruments of Terror," in Clinics in Laboratory Medicine, Volume 21, pages 607-618. In August of 2001, Doctor Kagen was appointed as a Professor of Nursing Research in the USU Graduate School of Nursing.

Colonel Morton F. Levitt, USAF, MC, Associate Professor, Co-Course Director for the second-year Pathology Course, Co-Course Director for the Fundamentals of Infectious Disease Course, and Course Director for the Histology for Pathologists Course, performs surgical pathology, cytopathology, and Quality Assurance for the Walter Reed Army Medical Center Department of Pathology and Laboratory Services and teaches Pathology Residents from the National Capital Area Joint Residency Program in Pathology. He was appointed by the College of American Pathologists (CAP) to the American National Standards Institute, Healthcare Informatics Standards Board, the international body which sets the standards for medical computer applications. Colonel Levitt is a member and Vice-Chair, of the CAP Informatics Committee which develops: medical informatics courses; distance learning materials; and, the College of American Pathologists WWW Home Page which sets national policy standards for laboratory accreditation. He also teaches, coordinates, directs, recruits faculty, and develops multi-media and "hands-on" educational presentations for the CAP Kiosk's yearly national meetings. In addition, he annually develops Computer Roundtable Courses for national meetings; he attends three committee meetings and one national meeting each year and participates in conference calls as required. Colonel Levitt is an appointed Consultant of the CAP House of Delegates, representing the State of Maryland (concurrent with the CAP and United States CAP national meetings), and attends local briefings and legislative updates/training, as required. Colonel Levitt conducts on-site laboratory accreditation inspections at the request of the Regional CAP Commissioner or other CAP Commissioners, serving as the Team Leader or as a member of the team. He is an expert consultant for the Laboratory General Checklist and Computers sub-section of the Laboratory General Checklist; as a Team Leader, he is responsible for the recruitment of inspectors, all administrative matters, and the conduct of the inspection as well as leading in-briefs and out-briefs at the facilities being inspected. Colonel Levitt is a member of the Duke University Medical Alumni Council. He attends meetings twice yearly and develops policy for medical alumni continuing medical education (CME) and other activities. He also plans and coordinates regional CME activities.

Radha K. Maheshwari, Ph.D., Professor, USU SOM Department of Pathology, organized a workshop on the Application of DNA Recombinant Technology in Pharmaceutical Drug Discovery at The Birla Institute of Technology and Science in Pilani, India, and at the National Institute of Pharmaceutical Education and Research in Chandigarh, India. Several USU faculty members also participated in this workshop. Doctor Maheshwari has also served on the International Advisory and Planning Committee for the International Conference on Population, Development and Environment at the Birla Institute of Technology and Science in Pilani, India, held on March 15-16, 2002. In addition, Doctor Maheshwari has been invited to several leading institutions in India and he has delivered seminars on the 20 Years of Collaborative Efforts of the Indo-USUHS Program. Doctor Maheshwari publishes papers and presents at various national and international meetings. He also reviews papers for scientific journals and has served on the NCCAM, National Institutes of Health (NIH) Study Section Panel. He is the recipient of two extramural grants from NIH and from the Samueli Institute of Information Biology, a not-for-profit foundation. Doctor Maheshwari was a team member, along with Doctors Friedman and Cutler, for the preparation of a Self-Study Report for the Pathology Graduate Program Review; and, he served as a Program Director for the Pathology Graduate Program. He also served as the Coordinator of the Indo-USUHS Activities, with several leading institutions in India. He serves as the Pathology faculty member in the Interdisciplinary Graduate Program on Molecular and Cell Biology and Emerging Infectious Diseases; and, he has also mentored high school and college students. Doctor Maheshwari participated and gave lectures in a USU Graduate Course on the Emerging Threat of Biological Weapons and Bioterrorism. He is a principal investigator on an Army grant to study and to delineate the mechanisms

for neuro-degeneration and neuro-pathogenesis with a neuro-virulent virus, Venezuelan equine encepahalitis virus (VEE). A possible weaponized biological agent, VEE has great significance for the United States military as a future threat, due to its potential use as an endemic pathogen, or its use for a biological attack.

Commander Aileen Marty, MC, USN, Associate Professor, USU SOM Department of Pathology, participates yearly in the following Courses: Fundamentals of Infectious Disease; and, the second-year Courses of Pathology and Histology. She also developed and executes a significantly relevant Course, The Scientific, Domestic, and International Policy Challenges of Weapons of Mass Destruction and Terror Part I: The Emerging Threat of Biological Weapons and Bioterrorism. In addition, as part of a team which includes members of the Armed Forces Radiobiology Research Institute (AFRRI), she developed the Scientific, Domestic, and International Policy Challenges of Weapons of Mass Destruction, and Terror, Part II: Nuclear, Radiological, High Explosives and Toxic Chemical Agents. Commander Marty lectures at numerous institutions and departments such as The Pentagon, The Congress, Presidential Committees, Yale, Johns Hopkins, and SAIS. Commander Marty developed and/or assisted in the broadcast and presentation of teleconferences and Veterans Administration training videos on the following topics: *Laboratory Aspects of Biowarfare: Focus on Anthrax and Plague*, the *NBC Broadcast on Weapons of Mass Destruction* for the Food and Drug Administration, and the *United States Army MRIID Satellite Broadcast on BW.* In addition, Commander Marty provided information to organizations on the *Hazards of Biological, Nuclear, Radiological, High Explosives, Chemical, Kinetic Energy, & Other Unusual Weapons.* A few of the organizations that Commander Marty has assisted include: Neighborhood Data, Neighborhood NBC Preparedness, Prince House, and Pettit Way. She has also been an invited lecturer to several National and International Centers following the terrorist and anthrax attacks of September 11, 2001, and later. She is currently becoming recognized as one of the foremost experts on the subject of *Domestic and International Policy Challenges of Weapons of Mass Destruction.*

Hallgeir Rui, M.D., Ph.D., Associate Professor, USU SOM Department of Pathology, is a Charter Member of the USU United States Military Cancer Institute; he serves on the Breast Cancer Grant Review Panel, Microbiology; and, he is a Panel Member of the Congressionally-mandated DoD, Army Breast Cancer Initiative. Doctor Rui supports the University Medical School Courses as a Laboratory Instructor, a Substitute Small Group Instructor, a USUHS Ph.D. Program Instructor, and a Mentor. He supports the Graduate Programs in Molecular and Cell Biology by giving lectures and laboratory instruction. He is the Chairman of the Graduate Student Qualifying Exam Committee; and, he has published in the following professional journals: Molecular and Cellular Endocrinology, Molecular Endocrinology, and Endocrinology.

J. Thomas Stocker, M.D, Professor of Pathology, Pediatrics and Emerging Infectious Diseases, USU (off-campus) Professor of Pathology, Georgetown University Medical School, is the co-editor and one of the authors of Pediatric Pathology, 2nd Edition (Lippincott/Williams and Wilkins), the major textbook of Pediatric Pathology which was published during 2001. Doctor Stocker is also the co-editor of another pediatric pathology textbook entitled, Pathology of Solid Tumors in Children, (Chapman and Hall, 1998). Doctor Stocker's areas of research include pediatric pulmonary pathology, pediatric hepatic neoplasia, and pediatric gastrointestinal disease. His classification of congenital cystic adenomatoid malformation of the lung is widely used and his studies of bronchopulmonary dysplasia have

followed the disease from its evolution in 1967 to the present day. Dr. Stocker, with colleagues in the Ukraine,, is involved in the study of the long-term effects of low dose radiation on the workers involved in the Chernobyl nuclear plant explosion in 1986. Dr. Stocker lectures extensively throughout the military medical system as well as in Mexico, Latin America, and Europe. He has organized and run pediatric educational programs throughout the United States for 25 years.

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Pediatrics - School of Medicine.

The Pediatric Thyroid Cancer Study Group of the USU SOM Department of Pediatrics, one of the Nation's premier groups performing molecular research into the pathogenesis and clinical outcomes of pediatric and young adult thyroid cancer, under the leadership of **Colonel Gary L. Francis, MC, USA, Professor of Pediatrics, Program Director of the Pediatric Endocrinology Fellowship,** and **Aneeta Patel, M.Sc., Research Assistant Professor of Pediatrics, Director, Pediatric Molecular Research Laboratories,** has published and presented over 30 research papers and abstracts in the last year. **Captain Ann Straight, MC, USA; Lieutenant Commander William Scouten, MC, USN;** and **Captain Craig Dobson, MC, USA,** were awarded travel grants to support the presentation of their research at the Lawson Wilkins Pediatric Endocrine Society Meeting.

The Pediatric Hematology/Oncology Fellowship Training Program for the National Capital Region under the direction of **Lieutenant Colonel Gary Crouch, USAF, MC, Associate Professor of Pediatrics,** supports the Pediatric Oncology Program which is clinically-based at the Walter Reed Army Medical Center, and provides consultative and educational support for the entire region, as well as consultative support for overseas DoD clinical facilities. The Pediatric Oncology Program has provided state-of-the-art care for over 450 oncology patients over its fourteen years of operation. Currently, there are over 30 new oncology patients diagnosed each year over the past five years, making this one of the busiest sites in the DoD for the treatment of pediatric cancer. The goal of the department is to treat patients on National Cancer Institute-sponsored cooperative group studies through the Children's Oncology Group.

The Neonatology Section of the Department of Pediatrics under the leadership of **Lieutenant Colonel Mark Thompson, MC, USA, Assistant Professor of Pediatrics**, and **J. Timothy O'Neill, Ph.D., Research Assistant Professor of Pediatrics,** developed a novel program to improve the education of resident physicians in the care of ill newborns. Graduating pediatric resident physicians in the National Capital Consortium (NCC) are given an intensive two-week course on issues such as stabilization and transport which are critical for the successful management of sick neonates at the smaller military hospitals; the course is also offered to fourth-year USU medical students during the Neonatology elective. A model for DoD teaching of Newborn Medicine, the course has been enthusiastically received by the graduating pediatric residents. Recently, the program was made available to graduating family practice residents in the NCC.

Major Andrew J. Bauer, MC, USA, Teaching Fellow, USU SOM Department of Pediatrics, was chosen as a 2001 recipient of The Endocrine Society's Abbott Thyroid Research Clinical Fellowship and Mentor Award. The award goes to authors of selected abstracts who conduct research as a major

investigator in clinically relevant aspects of thyroid disease; specifically, the award recognized Major Bauer's work on the inhibition of thyroid cancer xenografts by use of vascular endothelial growth factor monoclonal antibodies. Major Bauer made an oral presentation at the Society's 83rd Annual Meeting in June of 2001. Founded in 1916, and based in Bethesda, Maryland, The Endocrine Society is the world's oldest and largest organization devoted to research on hormones and the clinical practice of endocrinology. The Society consists of more than 9,000 scientists and physicians in more than 80 countries.

Commander Jerri Curtis, MC, USN, Assistant Professor, and Program Director, Neonatal-Perinatal Medicine Fellowship, National Capital Area Educational Consortium, USU SOM Department of Pediatrics, achieved the distinction of receiving the United States Navy Medical Corps 16th Annual Navy-Wide Academic Research Competition Award in June of 2001 for work on the purification of the pulmonary hypertensive compound of group B *Streptococcus*. This prestigious annual award recognizes the most outstanding research achievement by a faculty member attached to a major teaching hospital of the United States Navy.

Colonel Gary Francis, MC, USA, Professor, Associate Chair for Research Operations, and Program Director of the Pediatric Endocrinology Fellowship Program, USU SOM Department of Pediatrics, was invited to present his research at the International Conference on Radiation Injury Protection in Munich, Germany. Colonel Francis and **Aneeta Patel, M.Sc., Research Assistant Professor of Pediatrics**, published several articles on childhood thyroid carcinoma. One of these articles written by several authors, to include doctors Francis and Patel, was entitled "Infiltration of Differentiated Thyroid Carcinoma by Proliferating Lymphocytes." The article is associated with improved disease-free survival for children and young adults and was published during 2001, in the Journal of Clinical Endocrinology and Metabolism, Volume 86, pages 1072-1077. This work has received wide acclaim and stands as a model for the immune response against many different forms of cancer.

Janice L. Hanson, Ph.D., Research Assistant Professor of Pediatrics and **Colonel Virginia F. Randall, MC, USA, Associate Professor of Pediatrics, USU SOM Department of Pediatrics,** worked in collaboration with **Elizabeth S. Jeppson, Ph.D., Adjunct Assistant Professor of Pediatrics, Colonel William S. Sykora, MC, USAF, Assistant Professor of Family Medicine,** and the USU National Capital Area Simulation Center to develop a teaching sequence on advocating for patients and families in health care settings. Doctor Hanson presented a workshop describing this project at the Undergraduate Medical Education-21 (UME-21) Third Annual Meeting in Washington, D.C. This work also formed the basis for a poster presentation at the meeting of the Association for Medical Education in Europe in Berlin, Germany, during September of 2001.

Lieutenant Colonel (select) Woodson Scott Jones, USAF, MC, Assistant Professor of Pediatrics and Associate Director of the Third Year Pediatric Clerkship, received first place in the Leo J. Geppert Award Competition for Research at the American Academy of Pediatrics (AAP) 35th Uniformed Services Pediatric Seminar in March of 2001, for his research project, "How Helpful Is Pneumatic Otoscopy in Improving Diagnostic Accuracy?" Doctor Jones is the only researcher who has received this award for two consecutive years.

Lieutenant Commander Christine Johnson, MC, USN, Assistant Professor of Pediatrics and NCA Site Director and Liaison with the Agency for Toxic Substances and Disease Registry (ATSDR), Department of Health and Human Services, has initiated a proposal to establish a Pediatric Environmental Health Specialty Unit (PEHSU) at USU. Children and fetuses are at extremely high risk from certain toxic exposures because of their unique physiological and developmental vulnerability. A DoD PEHSU at USU would provide critical education and consultation services to uniformed health care providers world-wide. This unit would augment the existing units across the United States, Canada, and Mexico utilizing its unique role to address issues specific to military populations. A military PEHSU would add specialized knowledge of the many complex defense-related exposures not found in the civilian sector. The USU PEHSU would become an essential component of the military unique curriculum of military residency training programs providing education in the area of environmental health.

Captain Ildy M. Katona, MC, USN, Professor of Pediatrics and Medicine, and Chair, USU SOM Department of Pediatrics, was invited to serve as the American Medical Association Federal Representative to the Pediatric Residency Review Committee of the Accreditation Council on Graduate Medical Education. In this capacity, she will participate in the oversight of all of the Nation's general pediatric and pediatric sub-specialty post-graduate education programs. Captain Katona finished a seven-year term as a member of the Pediatric Rheumatology Sub-Board of the American Board of Pediatrics. During this term, Doctor Katona chaired the Sub-Board for two years. In addition, Captain Katona was an invited speaker at the 12th Iowa Rheumatology Symposium and a Visiting Professor at the University of Iowa, Iowa City, Iowa.

Lieutenant Colonel Jeffrey Lee Longacre, MC, USA, Assistant Professor and Associate Chair for Administration, Pediatric Education Section, USU SOM Department of Pediatrics, organized and provided leadership for the Pediatric Education Section which includes **Lieutenant Commander Christine Johnson, MC, USN; Lieutenant Colonel (select) Woodson Scott Jones, USAF, MC; Janice Hanson, Ph.D.**; and, **Colonel Virginia Randall, MC, USA.** The Pediatric Education Section is an exciting and informative activity for pediatric educators who participate in the teaching of third-year medical students. The Pediatric Education Section conducted its biannual retreat in September of 2001, bringing clerkship site directors from all ten of the pediatric teaching hospitals across the United States to USU. Over the two-day retreat, the clerkship was reviewed in-depth, analyzing the current clerkship experience, as well as charting future medical education and clinical research directions. After participating in round-table discussions, a faculty development seminar, and strategy sessions, the site directors returned to their teaching hospitals with new skills, additional knowledge, and renewed enthusiasm in contributing to the outstanding medical education of USU students. The Pediatric Education Section also has established a Faculty Development Course, involving USU faculty experts in medical education to provide seminars, workshops, and consultation on a broad range of medical education topics. Following the inaugural course at the Uniformed Services Pediatric Seminar in 2001, the course was conducted at the Tripler Army Medical Center in Hawaii. It is scheduled for several military teaching sites during the coming year. In addition, the members of the Pediatric Education Section presented two posters at the Council on Medical Student Education in Pediatrics (COMSEP) National Meeting in San Diego, California, during March of 2001. The first presentation, "Utilizing a matrix to review whether clerkship activities and evaluation tools optimally implement the COMSEP curriculum," detailed a way to evaluate the implementation of curriculum competencies through clerkship educational and evaluation activities. The second presentation, "Utilizing a case-based interactive learning module incorporating CD-ROM-based technology to optimize the teaching of cardiac auscultation skills in the pediatric clerkship,"

was also co-authored by **Felipe Vizcarrondo, M.D., Assistant Professor of Pediatrics**, and described an interactive cardiology teaching module. Lieutenant Colonel Longacre and **Lieutenant Colonel (select) Woodson Scott Jones, USAF, MC, Assistant Professor, USU SOM Department of Pediatrics,** also contributed cases for a program of Internet-based, self-directed learning materials in general pediatrics. The program is a cooperative effort by the Council on Medical Student Education in Pediatrics (COMSEP) and the Dartmouth Medical School; it is funded by the Bureau of Health Professions.

Kathleen B. Madden, Ph.D., Research Assistant Professor, USU SOM Department of Pediatrics, is a co-investigator on a five-year, $1.25 million National Institutes of Health grant recently awarded to **Terez Shea-Donohue, Ph.D., Research Professor of Medicine, USU, and Research Physiologist, USDA,** entitled "GI Nematodes and Gut Functional Responses to Inflammation." Doctor Madden's primary research interests are in the field of immuno-parasitology, with special emphasis on cytokine regulation of the host's response to infection with gastrointestinal nematodes. Doctor Madden works in collaboration with **Captain Ildy M. Katona, MC, USN, Professor of Pediatrics and Medicine, and Chair, USU SOM Department of Pediatrics,** delineating cytokine regulation of mucosal mast cell hyperplasia, and with Doctor Shea-Donohue investigating neuroimmune regulation of gut epithelial cell function. Doctor Madden presented this research at the annual meeting of the American Gastroenterological Association in Atlanta, Georgia, during May of 2001.

Major Margret Merino, MC, USA, Assistant Professor, USU Department of Pediatrics, was one of the recent graduates of the Pediatric Hematology/Oncology Fellowship Training Program; she received the 2001 Ogden Bruton Award for Best Basic Science Research among DoD pediatricians for her paper entitled, "Immunomagnetic purging of Ewing's sarcoma from peripheral blood and bone marrow by quantitative real time PCR."

Captain Laura Mirkinson, MC, USNR, Assistant Professor, and **Captain Ildy M. Katona, MC, USN, Professor of Pediatrics and Medicine, and Chair, USU SOM Department of Pediatrics,** co-authored a chapter on the "Treatment of Juvenile Rheumatoid Arthritis" for the textbook, Modern Therapeutics in Rheumatic Diseases, published by Humana Press during 2001.

Colonel Russell R. Moores, Jr., MC, USA, Assistant Professor of Pediatrics, Assistant Program Director, Neonatal-Perinatal Medicine Fellowship, and **Captain Stephen Morrow, MC, USN, Assistant Professor of Surgery and Pediatrics,** co-hosted the ***15th Annual Pediatric/Pediatric Surgery Symposium*** on March 31, 2001. The topic was "Current Issues in Disorders of the Upper GI Tract." The ***2nd Annual C. Everett Koop Distinguished Lecture*** was delivered by **Dale Johnson, M.D., Professor of Surgery and Pediatrics, University of Utah School of Medicine.** Doctor Johnson's presentation was entitled, "Esophageal Atresia and Gastroesophageal Reflux: An Overview of Surgical Approaches." Other speakers were **Carlo DiLorenzo, M.D. Professor of Pediatrics, University of Pittsburgh; Christian Macedonia, M.D., Assistant Professor of Obstetrics and Gynecology, USU SOM;** and, **William Carter, M.D., Fellow in Pediatric Radiology, Children's National Medical Center.** Colonel Moores also directs the pediatric portion of the ICM-III Course and leads the NCA pediatric faculty in a novel coordinated effort to introduce second-year medical students to the pediatric

history and physical examination. Children from several day-care centers and teenagers from a local high school participate as the simulated patients. Colonel Moores' leadership and organizational skills result in a unique experience for the students.

J. Timothy O'Neill, Ph.D., Research Assistant Professor, USU SOM Department of Pediatrics, Member of the Neonatology Section, performs outstanding community outreach volunteer work with the local American Heart Association (AHA). He presents lectures to high school students for the AHA and sponsors research internships for high school students at USU; Doctor O'Neill coordinates the placement of these students into USU laboratories and mentors many of them in his own lab. Many of the students have progressed to careers in science and medicine; one student is currently enrolled at USU. Doctor O'Neill has received numerous gifts and plaques over the years for his efforts and was recognized at the annual AHA banquet for students and volunteers. Doctor O'Neill directs the Cardiovascular Section of the Structure and Function of Organ Systems Course for first-year medical students at USU. For this course, Doctor O'Neill organizes and coordinates 22 lectures (presenting ten himself) and three large laboratory exercises.

Colonel (select) Martin G. Ottolini, USAF, MC, Associate Professor of Pediatrics and Emerging Infectious Diseases USU SOM, Program Director, Pediatric Infectious Diseases Fellowship, National Capital Consortium, was invited by the National Institute of Child Health and Human Development to co-chair the development of a five-year strategic plan for Sudden Infant Death Research. His work led to the June 2001 publication of *Targeting Sudden Infant Death Syndrome (SIDS): A Strategic Plan*. Colonel Ottolini also presented Research Grand Rounds at the Virologic Institute of the University of Wuerzburg, Germany, on September 24, 2001. His talk was entitled, "Development and Use of a New Animal Model to Study Influenza." Doctor Ottolini was the invited guest of Dr. Stefan Niewiesk, a noted paramyxoviral researcher at the Institute. He spent the following week with Dr. Niewiesk's research group working on the laboratory development of cellular immunologic assays to study the pathogenesis and immune response to measles and influenza in animal models.

Colonel Victor M. Pineiro-Carrero, USAF, MC (retired), Associate Professor, USU SOM Department of Pediatrics, Program Director, Pediatric Gastroenterology Fellowship, National Capital Consortium, received the 2001 Mentor of the Year Award at USU for his tireless efforts in community outreach, the recruitment of student candidates, and his support to minority students during medical school.

Merrily Poth, M.D., Professor of Pediatrics and Neuroscience, USU SOM Department of Pediatrics, was an invited speaker at the meeting of the Endocrine Society of Argentina in Buenos Aires in August of 2001. She presented talks entitled, "Graves Disease in Children and Adolescents" and "Thyroid Cancer in Children." Doctor Poth also participated in a multi-disciplinary session on the spectrum of auto-immune thyroid disease and was the Invited Professor of Pediatric Endocrinology to multiple universities throughout Brazil. Doctor Poth authored three chapters on thyroid cancer in children and adolescents in the textbook, The Clinical Approach to Thyroid Cancer, edited by **Dr. Leonard Wartofsky** and published by Humana Press in 2001. Additionally, Doctor Poth co-authored with **Major**

Andrew J. Bauer, MC, USA, Teaching Fellow, USU SOM Department of Pediatrics, the last of a three-part series of papers on precocious puberty, "Premature Thelarche and Premature Adrenarche: Variations of Normal," published in The Endocrinologist.

Major Jon B. Woods, USAF, MC, Assistant Professor, USU SOM Department of Pediatrics, completed his Pediatric Infectious Disease Fellowship in August of 2001. The Department of Pediatrics continues to be one of the key participants in the interdisciplinary Emerging Infectious Disease Program at USU. This year, three of the Military Pediatric Infectious Disease Fellows worked in the USU Department of Microbiology and Immunology Laboratories to help fulfill their training requirements. Following his graduation from the Pediatric Infectious Disease Fellowship Program, Major Woods was assigned to the Operational Medicine Division of USAMRIID, and now serves as a biological warfare expert and instructor for the Department of Pediatrics. He recently gave a Pediatric Grand Rounds, an urgent anthrax update, and provided critical information on pediatric exposure and therapy guidelines. In addition, Major Woods attended the 4th International Symposium and Workshop on Shiga-Toxin (Verotoxin) Producing *Escherechia coli* Infections in Kyoto, Japan; he presented research he performed under the direction of **Alison O'Brien, Ph.D., Professor and Chair, USU SOM Department of Microbiology and Immunology,** entitled "Ferrets as a model for infection with shiga-toxin producing *Escherechia coli.*"

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Pharmacology - School of Medicine.

Courses Presented. The USU SOM Department of Pharmacology presents four courses: Pharmacology PHO 2001 (Medical School-II Medical Student Course); Pharmacology PHO 2001 (Graduate School of Nursing, Nurse Anesthesia Master Degree Program Student Course); Pharmacology PHO 510 (Graduate Student Course); and, Neuropharmacology MPO 803 (Graduate Student Course). Pharmacology PHO 2001 includes a computer-based Pharmacokinetic Simulation Exercise and a network-based Drug Information Exercise; all students enrolled in the course must complete these exercises for credit. These USU faculty-designed exercises have been integral parts of the course for the last ten and five years, respectively.

Significance of the Research Programs in the Department of Pharmacology. The USU SOM Department of Pharmacology's research strengths are in the two major areas of molecular and cellular neuropharmacology and signal transduction mechanisms. These general areas of research are of considerable importance to the development of the discipline of Pharmacology and for biomedical education. Studies in these areas are expected to be productive topics for continued research concentration.

Developments in these areas also have implications for the advancement of military medicine. Extreme and rapid changes in the environment are a frequent feature of battlefield exposure. The Pharmacology faculty, through their research efforts, explore the molecular, cellular and systems implications of changes in the chemical or physical environment of an organism. Their basic studies on

the mechanisms underlying cellular adaptations may lead to ways of reducing the negative consequences of such adaptations while retaining the valuable features of those adaptations which enhance survival.

Molecular and Cellular Neuropharmacology. Research programs of the Pharmacology faculty address issues relating to adaptations of the nervous system following changes in activity associated with an altered cellular environment or with the application of external stimuli, injury, or other stresses. **Suzanne B. Bausch, Ph.D., Assistant Professor,** and **John M. Sarvey, Ph.D., Professor,** conduct research in their electrophysiology laboratories to examine various aspects of synaptic adaptation following seizures (Bausch) or after high-frequency electrical stimulation inducing long-term potentiation (Sarvey). Doctor Bausch's laboratory is examining structural adaptations in GABA and glutamate synapses in the hippocampus following repeated episodes of seizure activity. Doctor Sarvey's work on long-term potentiation has led him to study the role of endogenous zinc in synaptic function, both as a facilitator of long-term potentiation and as a neurotoxic factor liberated during ischemic injury to the brain.

The molecular mechanisms underlying neural injury are also studied in the laboratories of **Aviva J. Symes, Ph.D., Assistant Professor; Brian M. Cox, Ph.D., Professor and Department Chair;** and **Cinda J. Helke, Ph.D, Professor and SOM Associate Dean for Graduate Education.** The Symes and Cox laboratories examine the release of cytokines in response to neural injury and their roles in the regulation of the expression of neuropeptides. Doctor Symes' laboratory is exploring factors regulating the expression of vasoactive intestinal polypeptide (VIP) in the brain following neural injury. Doctor Cox's laboratory studies the expression of endogenous opioids and their relevance to the control of pain and inflammation following injury to the nervous system. The laboratories of Doctor Cox and **Thomas E. Cote, Ph.D., Associate Professor,** are also studying adaptations in opioid peptide and receptor function related to chronic drug exposure. Doctor Helke's laboratory studies the mechanisms underlying the disruption of autonomic nervous system function in diabetes. Her studies have demonstrated metabolic, oxidative, neurochemical, and functional deficits in the vagus nerve and other autonomic nerves following sustained hyperglycemia. The impaired function of neurotrophins and oxidative injury associated with hyperglycemia has been demonstrated. **Jeffrey M. Harmon, Ph.D., Professor,** is studying the function of glucocorticoid receptors in the central nervous system. **Captain Christopher B. Reid, MC, USA, Ph.D., Assistant Professor,** examines factors controlling the differentiation of the neural precursor cells during neural development. Diseases which affect nerve cells often result in permanent, life-altering disabilities. More than five million Americans are currently afflicted by a neurodegenerative disorder.

Research is Critical to Health Care in the Military Environment. In peacetime, over 8,000 Americans with traumatic brain injury (TBI) are admitted to military and veterans hospitals. In times of combat, traumatic brain injury accounts for at least fourteen percent of surviving casualties and a disproportionate amount of acute and long-term combat casualty care resources. Understanding the genes which control neuronal generation and specification in the central nervous system would likely figure prominently in treatments aimed at replacing damaged nerve cells. These research programs relate to issues of critical importance to health care in a military environment. **Seizure generation, impairment of learning and/or memory, and neurodegeneration, are frequent consequences of accidental and battlefield neural injuries.** Improved understanding of these events might lead to more effective therapies. These studies can be of great benefit to military personnel who are at increased risk of sustaining a brain injury during the performance of their duties. Defining the mechanisms which control brain development and brain formation is critical to the understanding of normal developmental processes and may be a key to treating Alzheimer's and Parkinson's diseases. Collectively, these studies of the

adaptations of the nervous system following changes in the neuronal environment indicate the wide range of adaptive processes which can occur in the nervous system and direct the way to potential and novel therapies.

Signal Transduction Mechanisms. Doctors Harmon, Symes, and Cote are actively involved in addressing aspects of the function of critical cellular transduction systems. Doctor Harmon's laboratory is exploring the role of abnormalities in glucocoticoid receptor expression and/or function in the impaired function of the hypothalamic-pituitary adrenal axis and in resistance to steroid therapy in the treatment of cancer. Doctor Symes is exploring the control of gene transcription in the nervous system by cytokines. These studies are beginning to elucidate the fundamental changes in the neural function which are induced by enhanced cytokine expression in neural injury. Doctor Cote studies the role of GTP-binding proteins (G proteins) which mediate the actions of a very large number of neurotransmitters and hormones utilizing G protein coupled receptors (GPCR). Understanding the role of a novel family of G protein regulator molecules may lead to a new understanding of the regulation of cell function by GPCR in general. These studies also have a specific application to studies of tolerance and dependence to opiate drugs carried out in a collaboration between the laboratories of Doctors Cote and Cox. The research programs of Doctors Helke and Sarvey also involve the analysis of signal transduction systems activated by transmitters, neurotrophins, or oxidative stress and their adaptations in response to a changing cellular environment.

Individual Projects Have Important Implications. These studies have important implications for the understanding of regulators of biologic functions at the molecular, cellular, and biological systems levels. Individual projects provide insight into the adaptive responses of the nervous system, the roles of glucocorticoids in post-traumatic stress disorders, and on cell communication and cell death in relation to the treatment of some cancers.

External Research Support Received During 2001.

Extramural Research Support Received in 2001. Six investigators in the SOM Department of Pharmacology received new grant funding during 2001:

Suzanne B. Bausch, Ph.D., Assistant Professor, received funding from the DoD Brain and Spinal Cord Injury Program for her grant entitled, "Glutamate Receptors in Epileptogenesis."

Beata Buzas, Ph.D., Research Assistant Professor, received funding through 2002 from the DoD Veteran's Head Injury Program for a grant entitled, "Opioid Peptides and Oxidative Stress."

Robert J. Lechleider, M.D., Assistant Professor, USU SOM Department of Pharmacology, received the John F. Maher and Joseph M. Krainin Awards from the National Capital Area Branch of the National Kidney Foundation. The awards were given for attaining the highest ranked grant application in the Spring 2000 cycle for the National Kidney Foundation of the National Capital Area. The application was entitled, "Smad5 Regulation of Vascular Smooth Muscle Cell Development and Function." During 2001, Doctor Lechleider also received grant funding from the National Kidney Foundation of the National Capital Area for his grant entitled, "TGF-*B* Control of Smooth Muscle Cells."

John M. Sarvey, Ph.D., Professor, received funding from the American Heart Association for his grant entitled, "Zinc and Neuronal Death in Ischemia."

Aviva J. Symes, Ph.D., Assistant Professor, received funding from the Christopher Reeves Paralysis Foundation for his grant entitled, "The Role of Smad3 in Glial Scar Formation After Spinal Cord Injury." Doctor Symes also received recognition through the American Society for Pharmacology and Experimental Therapeutics Summer 2001 Undergraduate Research Training Program.

Continuing Extramural Research Support in 2001. The following researchers from the Department of Pharmacology continued to receive funding from the following sources during 2001 from previously approved grants:

Beata Buzas, Ph.D., Research Assistant Professor, continued to receive funding from the DoD/Veterans Head Injury Program for his grant entitled, "Opioid Peptides and Oxidative Stress."

Brian M. Cox, Ph.D., Professor and Department Chair, continued to receive funding from the National Institutes of Health (NIDA/NIH) for his grant on the "Regulation of Opioid Systems."

Jeffrey M. Harmon, Ph.D., Professor, continued to receive funding from the National Institutes of Health (NCI/NIH) for his research on "Steroid Resistance in Human Leukemic Cells."

Cinda J. Helke, Ph.D., Professor and SOM Associate Dean for Graduate Education, continued to receive funding from the National Institutes of Health (NINDS/NIH) for her research on "Neurotransmitters and Visceral Afferent Neurons."

Aviva J. Symes, Ph.D., Assistant Professor, continued to receive funding from the National Institutes of Health (NINDS/NIH) for research on "Cytokine Regulation of VIP Gene Expression: Molecular Cloning and Characterization of a Unique Interferon-Gamma- and Lipopolysaccharide Inducible Nuclear Protein."

In addition, eight faculty members have approved intramural research protocols; and, eleven research protocols from the Department are currently under review by extramural funding agencies. During 2001, the members of the Department of Pharmacology authored, or co-authored, more than 20 papers, articles, and manuscripts which were published, or accepted for publication, in peer-reviewed publications.

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Preventive Medicine and Biometrics - School of Medicine.

Leonelo E. Bautista, M.D., MPH, Dr.PH., Assistant Professor, USU SOM Department of Preventive Medicine and Biometrics, received the 2001 Aventis Award, Best Research Proposal, from the Colombian National Academy of Medicine for his protocol, "Inflammatory, Autonomic, and Endothelial Markers of Survival Among Patients with a First Acute Myocardial Infarction." Dr. Bautista, a graduate of the Universidad Autonona de Santo Domingo, Dominican Republic, and the Johns Hopkins

School of Hygiene and Public Health, joined the USU faculty in the Spring of 2001. Prior to his arrival, Dr. Bautista was the Director of the Cardiovascular Research Center, Eastern Colombia Cardiovascular Foundation, in Bucaramanga, Colombia. A former Fulbright Scholar and author of more than 20 articles, Dr. Bautista now teaches Advanced Epidemiologic Methods at USU while continuing his research into the epidemiology of cardiovascular disease.

David F. Cruess, Ph.D., Professor, Deputy Chair and Part-Time Director of the Biostatistics Consulting Center, and **Cara H. Olsen, M.S., AB, Research Assistant Professor and Full-Time Biostatistics Consultant, Biostatistics Consulting Center, USU SOM Department of Preventive Medicine and Biometrics,** are the two faculty members who serve in the Biostatistics Consulting Center of the Department of Preventive Medicine and Biometrics. The Department established a University-wide Biostatistics Consulting Center (BCC) in the Summer of 2000. The BCC provides statistical consulting to USU scientific investigators who are engaged in the design of studies and experiments; statistical and graphical analysis of data; choice, application, interpretation, and reporting of statistical methods; preparation of presentations and publications; and, revision of papers based on referee's comments. Since its establishment, the BCC has provided statistical consulting to faculty, students, and staff in at least 20 departments at the University and at affiliated institutions such as the Walter Reed Army Medical Center and the National Naval Medical Center. The purposes of the BCC are twofold: 1) to improve the quality of USU research by providing statistical advice regarding study design, analysis, and reporting; and, 2) to encourage collaborative research between statisticians and investigators from other disciplines.

John H. Cross, Ph.D., Professor, USU SOM Department of Preventive Medicine and Biometrics, received the November 28, 2001 - Anniversary Award from the Helminthological Society of Washington. Given once a year, this award recognizes significant contributions to the study of parasitology and to the Society.

Deborah C. Girasek, MPH, Ph.D., Assistant Professor, USU SOM Department of Preventive Medicine and Biometrics, was awarded a $47,000 intramural grant to study childhood drowning prevention. She has also submitted A $177,600 grant proposal focusing on airline passenger use of alcohol to the National Institute for Alcohol Abuse & Alcoholism. Dr. Girasek was named as affiliated faculty on a $965,000 grant submitted to the National Heart, Lung, and Blood Institute. She also served as a reviewer of abstracts for the Injury Control and Emergency Services Section of the American Public Health Association. In addition, she presented her research at the Johns Hopkins Graduate Seminar on Injury Research and Policy. She was also invited to serve as a guest reviewer for a special issue of Patient Education & Counseling which was devoted to injury and violence prevention. Her manuscript, "Public Beliefs About the Preventability of Unintentional Injury Deaths," was published in Accident Analysis & Prevention. Her previous work was cited in an editorial which appeared in the British Medical Journal.

Captain Robert Allan Matthews, MSC, USN, Assistant Professor, Department of Preventive Medicine and Biometrics, was awarded the "Special" award from the Naval Aerospace Physiology Program and the Fred Hitchcock Award from the Aerospace Physiology Society for sustained professional excellence in Aerospace Physiology during 2001.

Gerald V. Quinnan, Jr., M.D., Professor, USU SOM Department of Preventive Medicine and Biometrics, Division of Tropical Public Health, conducts research related to the development of a vaccine to prevent human immunodeficiency virus (HIV) infections. Basic aspects of this research are targeted toward understanding how the coat, or envelope, protein of HIV resists the effects of the immune system. The results of these studies have established concepts regarding envelope protein structure which may indicate how the immune system could be stimulated to overcome the resistance of the virus. Methods have been established for the induction of immune responses which are active in the laboratory against resistant viruses, and may be able to protect against infection. A project has been initiated to determine in a non-human primate model whether these responses are protective. Success in the primate studies would indicate that human clinical trials would be appropriate. Dr. Quinnan received a competitive renewal of an investigator-initiated grant award and a program project grant award from the National Institutes of Health (NIH) during the past year. These awards fund the research described above. Dr. Quinnan's research has been published in the Journal of Virology. He serves on the NIH Vaccine Study Section, as a Consultant to the Food and Drug Administration, and on the Scientific Advisory Board of a biotechnology company. He also served on a panel convened by the Deputy Secretary of Defense on Biological Warfare Defense Vaccine Research and Development Programs.

Captain David H. Trump, MC, USN, Assistant Professor, USU SOM Department of Preventive Medicine and Biometrics, received funding for two research protocols. He was the principal investigator for "Does Self-Assessment of Post Deployment Health Predict Health Outcomes?" and, the co-investigator on a study funded by the United States Army Medical Research Materiel Command, "Assessment of Toxicological Assays Methods and Chemical Exposures Among a Cohort of United States Marines Deployed in the Gulf War." Captain Trump, who joined the USU faculty in the Summer of 2000, has authored eight articles and textbook chapters during the past two years. In his previous assignment at the Office of the Secretary of Defense for Health Affairs, Dr. Trump represented DoD as an ex-officio member of the United States CDC's Advisory Committee on Immunization Practices; and, he was also the DoD Liaison on the Editorial Board for the 17th Edition of the *Control of Communicable Diseases Manual.*

Thomas A. Eggleston; Lieutenant Colonel William Patrick Roach, USAF, BSC, Associate Professor; David Oler; and **Thomas Johnson, Ph.D., Assistant Professor, USU SOM Department of Preventive Medicine and Biometrics,** co-authored an article with **Hospital Corpsman, Second Class, Michael A. Mitchell, formerly of the USU Department of Laboratory Animal Medicine,** which was published in the journal Comparative Medicine, Volume 50, Number 4, August 2000. The article was entitled "Comparison of Two Porcine Skin Models for In Vivo Near-Infrared Laser Exposure."

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Psychiatry - School of Medicine.

Department of Psychiatry Responses to the Attacks of September 11, 2001. Immediately following the terrorist attacks in New York City and at the Pentagon in Washington, D.C., members of the USU Center for the Study of Traumatic Stress, USU SOM Department of Psychiatry, provided: on-going consultation to the Arlington Hospital (42 casualties from the Pentagon were taken there) on staff stress/interventions; manning support for the Stress Support Office at the White House/Executive Office Building; resources and information for the Hospital Ship COMFORT deployment teams for stress related to body handling, concern over families, and terrorist activities; and, a Disaster Care Resources site on the USU web page. **Captain Thomas Grieger, MC, USN, Associate Professor, USU SOM Department of Psychiatry, USU SOM Class of 1987,** was in charge of the Navy Special Psychiatric Rapid Intervention (SPRINT) Team which provided assistance at the Pentagon and the Navy Annex following the attacks on September 11th; the team provided supportive services to 2,000 active duty and civilian employees on the Navy staff. **Lieutenant Commander John Lyszczarz, MC, USN, USU SOM Class of 1993**, and **Lieutenant Commander John Kennedy, MC, USN, USU SOM Class of 1994,** were also part of the SPRINT team. **Lieutenant Commander Lisa McCurry, MC, USNR, Assistant Professor of Psychiatry,** assisted at the Pentagon Family Assistance Center. **Robert J. Ursano, M.D., Professor and Chair, USU SOM Department of Psychiatry and Director of the Center for the Study of Traumatic Stress; Carol S. Fullerton, Ph.D., Research Associate Professor, USU SOM Department of Psychiatry, Scientific Director of the Stress Center; James E. McCarroll, Ph.D., Stress Center Scientist; John Newby, D.S.W., Stress Center Scientist;** and, **Elizabeth Osuch, M.D., Stress Center Scientist,** distilled key points for fact sheets targeted to many topics relating to the attacks; those fact sheets were widely distributed. **Lieutenant Colonel Charles Engel, Jr., MC, USA, Assistant Professor, USU SOM Department of Psychiatry,** in consultation with other Stress Center members, played a key role in devising the mental health questions for the United States Army Center for Health Promotion and Preventive Medicine/Pentagon Post-Disaster Health Assessment Survey. **Colonel Ann Norwood, MC, USA, USU SOM Class of 1981, Chair, American Psychiatric Association (APA) Committee on Psychiatric Dimension of Disaster,** and **Doctor Ursano, Past Chair of the APA Committee,** were active in working with the APA to assist the affected areas.

Emmanuel G. Cassimatis, MC, USA (Ret.), Professor, USU SOM Department of Psychiatry and Associate Dean for Clinical Affairs, USU SOM, retired from active duty on January 19, 2001, following 26 years in the United States Army. Colonel Cassimatis began his medical career after graduating from the Harvard Medical School and completing a pediatric internship at the Yale-New Haven Hospital. He was subsequently commissioned as a Second Lieutenant and continued to complete tours of duty at the Walter Reed Army Medical Center; Berlin, Germany; the Frankfurt Army Regional Medical Center; and, the Office of the Army Surgeon General before his assignment to USU. While at USU, Colonel Cassimatis has served as the Association of Military Surgeons of the United States (AMSUS) Delegate to the American Medical Association (AMA) and was elected to the AMA Council on Medical Education. Doctor Cassimatis serves on the Accreditation Council for Graduate Medical Education (ACGME) and its Monitoring and Institutional Review Committees; on the AMSUS Board of Managers; and, as Chair of the AMA's Governing Council, Specialty and Service Society (a Caucus of over 200 delegates, representing all specialties and services in the House of Delegates). In addition, he serves on additional AMA Committees: the Executive Committee, Council on Medical Education (CME); Chair, Nominating Committee, CME; Chair, Graduate Medical Education Subcommittee, CME; and, he was

appointed to the Liaison Committee on Specialty Boards. Following a national search, Doctor Cassimatis was selected and appointed as the USU SOM Associate Dean for Clinical Affairs; he continues to serve in that position.

Carol Fullerton, Ph.D., Research Associate Professor and Director of Science in the Center for the Study of Traumatic Stress, USU SOM Department of Psychiatry, attended the American Psychological Association's Advanced Training Institute in Functional Neuroimaging, a program sponsored by the National Institutes of Health. As one of hundreds of applicants for the program, Doctor Fullerton was selected based upon her past work and the promise of future significant research. An article by Doctor Fullerton and other members of the Department of Psychiatry was published during 2001 in the American Journal of Psychiatry, Volume 158 (9), pages 1486-1491. The publication was entitled, "Gender Differences in Posttraumatic Stress Disorder After Motor Vehicle Accidents." Contributing authors were: **Robert J. Ursano, M.D., Professor and Chair, USU SOM Department of Psychiatry; Richard S. Epstein, M.D., (off-campus) Professor, USU SOM Department of Psychiatry; Brian Crowley, (off-campus) Associate Professor, USU SOM Department of Psychiatry; Tzu-Cheng Kao, Ph.D., Associate Professor, Department of Preventive Medicine and Biometrics; Kelley Vance, Research Associate, USU SOM Department of Psychiatry; and, Andrew Baum, Ph.D., (off-campus) Professor, USU SOM Department of Psychiatry.**

Edmund G. Howe, III, M.D., J.D., Professor, USU SOM Department of Psychiatry, received the Nancy C.A. Roeske Certificate for Outstanding Contributions to Medical Student Education from the American Psychiatric Association. In addition, Doctor Howe gave the Dr. Alice H. Kiessling Memorial Lecture to the American Society of Psychoanalytic Physicians in Washington, D.C. His lecture focused on current ethical and psychiatric controversies regarding infants born with intersexual conditions and the surgeries performed to correct such abnormalities. Doctor Howe is also the Director of Programs in Medical Ethics at USU and he is the Co-Chair of the International Health Committee of the Section on International Law and Practice of the American Bar Association.

He Li, M.D., Ph.D., Assistant Professor, USU SOM Department of Psychiatry, had his manuscript, "Kainate Receptor Mediated Heterosynaptic Facilitation in the Amygdala," accepted for publication by Nature Neuroscience during 2001.

Colonel Ann E. Norwood, MC, USA, USU SOM Class of 1981, Associate Professor and Associate Chair, USU SOM Department of Psychiatry, gave a presentation on "Psychological Reactions to Bioterrorism" at the Conference on Medical and Public Health Aspects of Bioterrorism on June 27, 2001, at the Johns Hopkins University School of Public Health. The conference was co-sponsored by the Memorial Institute for the Prevention of Terrorism in Oklahoma City, Oklahoma. Colonel Norwood also participated in "The Psychological and Social Impacts of Biological Attacks on the American Homeland," sponsored by ANSER, the National War College, and the Johns Hopkins Center for Civilian Biodefense Studies on October 12, 2001. Colonel Norwood, **Carol S. Fullerton, Ph.D., Research Associate Professor, USU SOM Department of Psychiatry,** and **Captain Thomas A. Grieger, MC, USN, Associate Professor, USU SOM Department of Psychiatry,** participated as subject matter experts in an international consensus conference on acute interventions following mass violence and trauma.

E. Fuller Torrey, M.D., Director of the Stanley Laboratory of Brain Research and Professor, USU SOM Department of Psychiatry, received the William C. Porter Award from the Association of Military Surgeons (AMSUS). Dr. Torrey was also featured in the December issue of the Washingtonian Magazine of the Washington Post in an article on "The Best and the Brightest" individuals in Washington, D.C. The article discusses Doctor Torrey's career as a psychiatrist and his research on schizophrenia and other mental illnesses.

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Radiology and Nuclear Medicine - School of Medicine.

Vincent B. Ho, M.D., Associate Professor, USU SOM Department of Radiology and Nuclear Medicine, co-authored three articles published in peer-reviewed Journals during 2001: "Hepatic Magnetic Resonance Angiography: A Multiobserver Comparison of Visualization Methods," in the American Journal of Roentgenology, Volume 176, pages 465-470; "Preferential Arterial Imaging Using Gated Thick-Slice Gadolinium-Enhanced Phase Contrast Acquisition in Peripheral MR Angiography," in the Journal of Magnetic Resonance Imaging, Volume 13, pages 714-721; and, "Gadolinium-Enhanced, Vessel-Tracking, Two-Dimensional Coronary MR Angiography: Single-Dose Arterial-Phase Versus Delayed-Phase Imaging," in the Journal of Magnetic Resonance Imaging, Volume 13, pages 682-689.

Lorraine G. Shapeero, M.D., Associate Professor, USU SOM Department of Radiology and Nuclear Medicine, was appointed Leader of the Bone and Soft Tissue Sarcoma Program of the United States Military Cancer Institute. During the past year, Doctor Shapeero also served on the Board of Directors of the Association of University Radiologists and of the Association of International Academic Radiologists and on the Executive Committee of the Alliance of Medical Student Educators in Radiology. In addition, Doctor Shapeero was reappointed as Consultant to the Editor of Radiology by the Board of Directors of the Radiological Society of North America; and, she also serves on the Editorial Boards of Radiology, Seminars in Musculoskeletal Radiology, and Academic Radiology.

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Surgery - School of Medicine.

During 2001, the Department of Surgery updated its Strategic Plan and continued robust programs in teaching, research, international relations, and other contributions to military and academic medicine. During this time, various honors and recognition were accorded to faculty members of the Department. Description of those accomplishments are described in detail. In addition, the Department ensured the continued growth of the Diploma in the Medical Care of Catastrophes Program; and, 24 Distinguished Visiting Professors provided presentations as part of the Department of Surgery's Distinguished Professor's Lecture Series. A few of these nationally and internationally recognized individuals included: **P. William Curreri, M.D., Daphne (Strategem, Inc.); Robert W. Anderson, M.D., Duke University Medical Center in Durham, North Carolina; Dale G. Johnson, M.D., University of Utah, Salt Lake City;**

Basil A. Pruitt, M.D., University of Texas in San Antonio, Texas; Norman McSwain, Jr., M.D., Tulane University in New Orleans, Louisiana; Robert A. Chase, M.D., Stanford University; John A. Jane, M.D., University of Virginia in Charlottesville, Virginia; and, James O. Menzoian, M.D., of the Boston Medical Center.

The 21st Annual USU Surgical Associates Day. The 21st Annual USU Surgical Associates Day was held on March 19, 2001. **F. William Blaisdell, M.D., University of California, Davis,** presented the Presidential Address for 2001, *Michael E. DeBakey: The Academic Surgeon.* **Doctor Thomas Russell, Director of the American College of Surgeons,** presented the *American College of Surgeons Update*; and, **Lieutenant General Paul K. Carlton, Surgeon General of the Air Force,** received the Baron Dominique Larrey Award for Excellence in Military Surgery.

Trauma Day, Pediatric Surgery Day, and the 19th International Surgery Day, were additional special meetings conducted for the benefit of third-year medical students on Surgical Rotations. These programs have traditionally been quite well received by both the students and the faculty. Participation by nationally and internationally known surgeons brings great credit to USU and spreads the reputation of USU as an academic center for military surgery on a world-wide basis.

Lieutenant Colonel Mark W. Bowyer, USAF, MC, Assistant Professor, USU SOM Department of Surgery, wrote three chapters for the book, Critical Care Secrets 3rd Edition, dealing with acute pancreatitis, fungal infections, and hemodynamic monitoring. Doctor Bowyer is the Immediate Past President of the Society of Air Force Clinical Surgeons. During 2001, he conducted nine ATLS Provider Courses and four Instructor Courses for Advanced Trauma Life Support. Additionally, Doctor Bowyer received the Diploma in the Medial Care of Catastrophes in 2001.

Colonel David G. Burris, MC, USA, Associate Professor, USU SOM Class of 1984, Director of the Division of Surgical Research, continued to lead the Department's efforts in the provision productive research during 2001. The work in the Division of Surgical Research, continued by **Hassan Alam, M.D., Assistant Professor, USU SOM Department of Surgery,** and **Elena V. Koustova, Ph.D., Research Assistant Professor, USU SOM Department of Surgery,** had primary focus on hemorrhagic shock and resuscitation with various solutions. The research of the Division was recognized through numerous articles and manuscripts published in peer-reviewed publications, awards, honors, and requested presentations at prestigious conferences and seminars.

Captain Dana Covey, MC, USN, Assistant Professor, USU SOM Department of Surgery, co-authored an article which was published in the Journal of Orthopaedic Trauma, Volume 14, Number 4, Pages 278-286. The study, "Field Hospital Treatment of Blast Wounds of the Musculoskeletal System During the Yugoslav Civil War," was supported by a grant from the Zachary Fisher Foundation as part of the Chairman of the Joint Chiefs of Staff Award for Excellence in Military Medicine. The paper analyzes the largest series of musculoskeletal blast injuries reported by United States military orthopaedic surgeons since the Vietnam War and demonstrates the extent to which modern surgical techniques, including major limb reconstruction, can be used in an austere tent hospital.

Lieutenant Colonel David L. Gillespie, MC, USA, Associate Professor, USU SOM Department of Surgery, received the Sigvaris Traveling Fellowship Award from the American Venous Forum/Foundation. He will use the $12,000 fellowship to visit medical centers throughout the world which have been established as centers of excellence in the management of venous disease. The grant is intended to initiate personal and professional development, promote an exchange of important clinical information, and stimulate the development of centers in the management of venous disease.

Colonel Christoph R. Kaufmann, MC, USA, Associate Professor, USU SOM Department of Surgery, continued his work as Director of the National Capital Area Medical Simulation Center. Interest in this rapidly growing field of medical education has led to his being invited to present his experiences to medical groups around the world. Doctor Kaufmann has been a Visiting Professor in New Zealand, Sweden, Norway, and France, in addition to multiple sites across the United States.

Elena V. Koustova, Ph.D., Research Assistant Professor, Senior Scientist, Trauma Readiness Research Institute, USU SOM Department of Surgery, concentrates on hemorrhagic shock and its treatment as her main area of research. Hemorrhagic shock is the leading cause of traumatic death in combat casualties. Fluid resuscitation after severe hemorrhagic shock is linked to the high incidence of fatal reperfusion injury (ARDS and MODS) and the high rate of late deaths. Research conducted by Dr. Koustova's research team is aimed at reducing the secondary tissue injury following fluid resuscitation, thus minimizing post-shock complications in both military and civilian settings. Comprehensive analysis of gene expression performed with state-of-the-art molecular/cellular biology techniques and realistic animal models of severe hemorrhage developed in Doctor Koustova's laboratory provide help in identifying the initial and crucial events in the pathophysiology of hemorrhagic shock and reperfusion injury. Doctor Koustova's team collects very specific information as to how different genes in various organs respond to resuscitation with different currently used resuscitation fluids. Since the researchers are able to separate effects of hemorrhagic shock from the effects of resuscitation/reperfusion, the strategy of prevention, especially valuable for the military, and targets for intervention will be identified. Doctor Koustova hopes to uncover the mechanisms behind known complications and adverse effects of fluid resuscitation, and ultimately, create an "ideal" resuscitation fluid. As indicated, the primary focus of Doctor Koustova's research is to identify and develop new strategies for volume resuscitation following hemorrhagic shock. Knowing that secondary reperfusion injury is an important source of the fatal complications and late deaths following resuscitation from massive hemorrhagic shock, Doctor Koustova investigates the cause of this injury using state-of-the-art molecular and cellular biology techniques. Currently, she employs a "gene chip" technique to simultaneously analyze the post-resuscitation changes in the expression of thousands of genes, the ultimate governors of all cell and tissue functions. This allows the researcher to create "genomic fingerprints" of various resuscitation protocols and to determine the optimal method of resuscitation. To integrate studies of resuscitation-induced effects at the tissue, cellular, and molecular levels, the researchers use mathematical clustering techniques to combine gene expression data with known physiological and biochemical markers of reperfusion injury. Once the patterns are identified, the ways for their manipulations can be established. Discovery of the mechanisms behind known complications and adverse effects of fluid resuscitation ultimately will aid in the establishment of an ideal resuscitation approach to improve combat and civilian casualty survival. Doctor Koustova's laboratory also conducts pioneer work performing a complete testing of the concept of energy source addition to resuscitation fluids. This includes the examination of metabolic markers, tissue energy accumulation and storage, functional activity of enzymes, and end-organ functions.

Brigadier General Frederick W. Plugge IV, USAF, MC (Ret.), Professor of Surgery, Volunteer Faculty, USU SOM Department of Surgery, announced his bequest intention to the USU SOM Department of Surgery during 2001. The endowed fund will provide continual support for the Department Chair and will be named the "Brigadier General Frederick W. Plugge, IV, Endowed Discretionary Fund in Surgery." As with other permanent endowments managed by the Henry M. Jackson Foundation on behalf of the University, only the interest from the fund will be utilized. Returns from the fund will be permanently restricted for use by the Chair for such activities as lectureships, fellowships, travel, and other program needs. Doctor Plugge was appointed to the USU SOM Admissions Committee from 1975 through 1977; since the mid-1980s, Doctor Plugge has maintained his relationship with USU as an Associate Professor and then as a Professor of Surgery with his appointment to the University's Voluntary Faculty. Over the years, Doctor Plugge has expressed his sincere belief in the mission of USU and the TriService approach of the medical school. It has been his belief that the USU SOM students have opportunities that are unmet at any other medical school in the country; they receive hands-on experience that would not be gained elsewhere.

Commander Peter M. Rhee, MC, USN, Associate Professor, USU SOM Department of Surgery, USU SOM Class of 1987, was selected by the Eastern Association for the Surgery of Trauma to serve on its Program Committee. This committee plays a vital role in assuring that the EAST Scientific Assemblies contain quality material. EAST affords a forum for the exchange of knowledge pertaining to the care and rehabilitation of the injured patient; the organization stimulates investigation and teaching in methods of treating and preventing injury from all causes. In addition, an abstract written by Commander Rhee was a poster presentation at the 60th Annual Meeting of the American Association for the Surgery of Trauma, held on October 12-14, 2001, in San Antonio, Texas. The abstract was titled, "Screening for Lumbar Fractures: Abdominal and Pelvic CT Versus Portable Plain Films."

Norman M. Rich, M.D., Professor, Leonard Heaton and David Packard Professor, and Chairman, USU SOM Department of Surgery, received two honors of significance during 2001. Doctor Rich received the prestigious University Medal in recognition of his more than 20 years of service in the SOM and USU (see Section IV, pages 293-295 of this Journal edition). In addition, in November of 2001, Doctor Rich received a standing ovation after his many accomplishments were documented in slides and video segments presented at the 28th International Vascular Symposium in New York City. Doctor Rich was also the founder of the Walter Reed Army Medical Center Vascular Fellowship.

Donald Sturtz, M.D., FACS, Professor, USU SOM Department of Surgery, published an article entitled "Commitment" in the September 2001 issue of Military Medicine. Doctor Sturtz also presented, "Trauma in the Ukraine," during the 21st Annual USU Surgical Associates Day; and, he led discussions on the *Debakey USU Brigade* and *Sea Duty 2000-2001*, during the 19th International Surgical Day held by the USU SOM Department of Surgery.

J. Leonel Villavicencio, M.D., FACS, JLV International Professor, USU SOM Department of Surgery, had another productive year. He presented the paper, "Controlled Ischemic for Complex Venous Surgery," at the American Venous Forum in Florida during February of 2001. He was also the co-author of the paper, "The Nutcracker Syndrome," and was a Visiting Professor at the William

Beaumont Medical Center in El Paso, Texas, from February 26-28, 2001. In addition, Doctor Villavicencio spoke on various topics at the Sixth International Venous Symposium in Lisbon, Portugal, in April of 2001. Doctor Villavicencio continued to travel extensively; his travel included his attendance at the International Union of Phlebology Meeting in Rome, Italy, on September 11, 2001. He also continues to write prolifically on his clinical research and contributed a chapter, "Non-Invasive Diagnosis of Deep Venous Thrombosis," in the book, Thromboembolism.

Charles Robb, M.D., Professor, USU SOM Department of Surgery - A Memorial. Doctor Charles Robb, 88, Professor of Surgery since 1983, died on July 26, 2001, in Montpelier, Vermont. A memorial service was held at the University on August 7, 2001. Doctor Robb joined the University as its third full-time professor. A long-time consultant and senior advisor in the Department of Surgery, he represented the medical school at national and international conferences. He was named Distinguished Professor of Surgery in 1995. Born in England, Doctor Robb was well-known for editing a highly regarded text on operative surgery and for popularizing a surgical procedure to unclog arteries of the neck called carotid endarterectomy. He first became known in medicine in 1956, when he co-edited the eight-volume book, Operative Surgery, now in its fourth edition and still a standard reference book. One of his patients in the 1950s was Sir Winston Churchill. A past president of the International Society of Cardiovascular Surgery and the North American Chapter of the International Cardiovascular Society, Doctor Robb is survived by his wife, Mary, four children, and eight grandchildren. He will be greatly missed by his USU family.

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The Graduate School of Nursing.

Department of Nurse Practitioners.

The USU GSN Department of Nurse Practitioners (DNP) focused its research and publications on nurse practitioner education and primary care issues. In both the civilian and military health care sectors, there has been a strong movement away from hospitalization toward out-patient treatment and primary care; consequently, over the past year, the DNP faculty members have directed their research and publication efforts to address this trend. Members of the DNP faculty were invited to author articles for both the September and December 2000 issues of Nurse Practitioner Forum. Women's health concerns were the focus of both issues. Articles included research on the exploration of facilitators and barriers to prenatal care among military women; a comparison of the military women assigned in the continental United States (CONUS) with those assigned overseas (OCONUS); needs for prenatal care availability, the use of prenatal care and how it is evaluated among military women; hormone replacement therapy considerations; the evaluation and management of mastalgia; cardiovascular issues in women's health; the assessment of major depressive illness in women; and, the evaluation of urinary complaints by women.

Susanne Gibbons, M.S., CRNP; Lieutenant Colonel Richard Ricciardi, NC, USA; and, Diane Padden, MS, CRNP, Assistant Professors, USU GSN Department of Nurse Practitioners, continued

to enhance the collaboration between their GSN Department and the National Capital Area Simulation Center. Their cutting-edge incorporation of simulated clinical experiences into nurse practitioner education was presented and featured at The American Association of Colleges of Nursing's Annual National Conference in Denver, Colorado; and, their presentation was selected for publication in the Journal of Nursing Education.

Cynthia Grandjean, M.S., CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners, focused her research on the health issues of particular relevance to geriatric patients. This is of particular importance following the institution of TRICARE for Life by the Military Health Care System. More than 50 million people suffer from one of 80 sleep disorders and two-thirds of all Americans complain of sleep deprivation. Sleep disturbances afflict more than 50 percent of adults over the age of 65 who live at home and approximately two-thirds of those who live in institutions. The consequences of sleep disorders can result in poor daytime functioning which translates into an enormous loss of productivity. Individuals suffering from sleep disorders may even develop more serious outcomes such as cardiac dysrhythmias and death. The topic of assessment and management of sleep disorders in geriatrics was recently addressed in an article by Ms. Grandjean and **Susanne Gibbons, M.S., CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners.** They collaborated on the article, "Assessing Ambulatory Geriatric Sleep Complaints." The article, which was published in Nurse Practitioner Forum, Volume 25, Number 9, pages 25-39; featured the assessment of geriatric patients for sleep apnea and periodic limb movement in sleep. In addition, there is now a focus on the importance of spirituality with regard to health promotion. The Army has developed a conceptual model for soldier and family wellness which includes spirituality as a key element. Research indicates that religion and faith can help promote good health and fight disease. This year, Ms. Grandjean was a co-investigator on a research project conducted at The Catholic University of America, investigating spiritual well-being and the quality of life in persons with chronic illnesses. She is currently conducting a research project at the University of Maryland (in conjunction with her doctoral studies) investigating the impact of religious coping on the psychological well-being of older individuals.

Patricia C. McMullen, J.D., CNS, CRNP, Associate Professor and Chair, USU GSN Department of Nurse Practitioners, has directed her research and publication efforts on six major areas for the improvement of women's health care as recommended by a United States Public Health Service Task Force in 1985. Menopausal Management: Women in the United States are living longer than their mothers or grandmothers, as a consequence, many women are confronted with menopausal symptoms and with making decisions over the use of hormonal replacement or complementary medical therapy. This year, Dr. McMullen co-authored an article with **Diane C. Seibert, M.S., CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners,** entitled, "Clinical Challenges in Menopausal Management: A Case Study Approach," for Nurse Practitioner Forum, Volume 11, Number 4, pages 238-243. Telephone Triage in Women's Health: Research indicates that approximately 20-28 percent of all primary health care is handled over the telephone (Studdiford, Panitch, Snyderman & Phass, 1996). Dr. McMullen and others have collaborated on one of the first symptom-based telephone triage protocol books for women's health care providers. The book contains both obstetric and gynecologic topics and a number of faculty in the Department of Nurse Practitioners have served as contributors on this book which will be published by J.B. Lippincott Publishers in 2002. Adolescent Violence: Homicide is the second leading cause of death among 15-24 year-olds in the United States, and the leading cause of death among African-American adolescents. Dr. McMullen is currently the co-investigator on a multi-disciplinary research project at MIEMSS (Shock-Trauma) in Baltimore, Maryland. She is studying the process of conflict in

older adolescents hospitalized as a consequence of violent incidents. Prenatal Care: It is important that health care providers explore ways to encourage women to seek care before, during, and following a pregnancy. This year, Dr. McMullen and **Barbara M. Sylvia, Ph.D., RN, Associate Professor and Chair, USU GSN Department of Nursing Research,** in collaboration with **Eugene Levine, Ph.D., Professor, USU GSN Department of Nursing Research,** and members of the United States Army, Navy, and Air Force, completed a $200,000 TriService Nursing Research Project which evaluated prenatal care needs, availability, accessibility, and the use and satisfaction with prenatal care among military women within and outside of the continental United States. Research results from two portions of this study were published in Military Medicine, Volume 166, Number 5, pages 443-448, and in Nurse Practitioner Forum, Volume 11, Number 3, pages 1-8. Excellence in Nursing Education: Both Dr. McMullen and **Christine Engstrom, MS, CRNP, ACON, Assistant Professor, USU GSN VA/DoD Distance Learning Program,** were selected to serve as On-Site Evaluators for the Commission on Collegiate Nursing Education (CCNE). The CCNE, an independent arm of the American Association of Colleges of Nursing, has been granted authority by the United States Department of Education to certify under-graduate and advanced level nursing programs throughout the United States.

Diane Padden, MSN, CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners, has focused her studies on the critical requirement for regular participation in moderate physical activity for a healthy life-style. Few Americans engage in regular exercise; as primary health care providers, nurse practitioners can take an active role in meeting the Nation's goals as reflected in the Surgeon General of the United States Public Health Services Report, *Healthy People 2010.* A recent article by Ms. Padden entitled, "The Role of the Advanced Practice Nurse in the Promotion of Exercise and Physical Activity Across the Life-Span," was accepted for publication in *Topics in Advanced Practice Nursing* on Medscape, a peer-reviewed electronic journal. Evaluation of Clinical Skills of Advanced Practice Nurses: Standardization of clinical experiences provides academic faculty with an objective approach for the evaluation of essential skills. Ms. Padden co-investigated on a research project entitled, "Comparative Methods for Evaluating APN Student Encounters with Standardized Patients." This project is a collaborative partnership between the National Capital Area Simulation Center and the GSN Department of Nurse Practitioners. A portion of this on-going research has been reported in the article, "Clinical Evaluation in Advanced Practice Education," co-authored by Ms. Padden; **Susanne Gibbons, MS, CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners; Grace Anne Adamo, MEd.; Lieutenant Colonel Marjorie Graziano, MSN, CRNP, USAF, NC, Assistant Professor, USU GSN Department of Nurse Practitioners; Lieutenant Colonel Richard Ricciardi, MSN, CRNP, AN, USA, Assistant Professor, USU GSN Department of Nurse Practitioners; Captain Richard Hawkins, MC, USN, USU SOM Department of Medicine;** and, **Eugene Levine, Ph.D., Professor, USU GSN Department of Nursing Research.** The article was accepted for publication in the Journal of Nursing Education.

Diane Seibert, MS, CRNP, Assistant Professor, USU GSN Department of Nurse Practitioners, employed the use of an engagement model to enhance the physical assessment skills of students enrolled in the VA/DoD Distance Learning Program. Medical outreach programs are increasing the use of multi-media formats to teach the widest possible audience. Ms. Seibert's research involves creating media products which are deliberately designed to capture the audience's attention, enhance the engagement of the audience, and ultimately improve the audience's understanding of complex health topics and generate cost-avoidance for the Uniformed Services. A portion of Ms. Seibert's research can be found

in the publication, "An Analysis of Video Teleconferencing Learning Environments Using an Engagement Model," Artificial Intelligence in Education, J.D. Moore etal. (Eds.), Amsterdam, IOS. During 2001, Ms. Seibert also published "Sexual Health: Counseling in Primary Care," "Management of Common Illnesses in Pregnancy," and, "Making Decisions in Women's Health," all of which were published in Medscape, the electronic journal.

Department of Nurse Anesthesia.

Captain Cynthia Cappello, MS, CRNA, NC, USN, Assistant Professor, USU GSN Department of Nurse Anesthesia, and **Captain Cynthia Feller, CRNA, MPH, NC, USN,** authored the first questionnaire sent to active duty and recently retired or separated nurse anesthetists from all of the TriServices. The purpose of the questionnaire was to identify why nurse anesthetists continue on active duty or retire/separate, as well as to quantify the wages of nurse anesthetists who had recently left the Services. Data analysis is being accomplished by Captain Feller and **Eugene Levine, Ph.D., Professor, USU GSN Department of Research.** Results will be used to assist in the formulation of DoD policy pertaining to nurse anesthetists. In addition, Captain Feller was an invited analyst for the United States Navy reference two critical incidents and the author of the revised specialty codes for the United States Navy Nurse Anesthetists.

Captain Cappello was also awarded the Navy Meritorious Service Medal (second award) in the Spring of 2001, for her efforts in Nurse Anesthesia Education. Captain Cappello published "Informatics in Nurse Anesthesia" in the Professional Practice Manual for the Certified Registered Nurse Anesthetist. This is an official publication of the American Association of Nurse Anesthetists. She received the USU Outstanding Service Medal for her outstanding work in team building and successful accomplishments for the Department of Nurse Anesthesia while serving as the Acting Director for the Department; and, she was also recognized with the Joint Service Achievement Medal for her heroic efforts in evacuating and managing the residents of a local nursing home during a fire (described further in Section III, pages 238-242, of the Journal).

Lieutenant Colonel Paul Austin, CRNA, Ph.D., Assistant Professor and Chair, USU GSN Department of Nurse Anesthesia, published three articles and presented three posters during 2001. The articles were: "Transport Ventilators in 2001," published in Respiratory Care Clinics of North America; "Imposed Work of Breathing During Ventilator Failure," published in Respiratory Care; and, "Surface Temperature of Two Portable Ventilators During Simulated Use Under Clinical Conditions," published in Military Medicine. His poster presentations were: "Imposed Inspiratory Work of Breathing and Breathing Comfort of Non-Intubated Volunteers During Spontaneous Breathing with Three Portable Ventilators and a Critical Care Ventilator," at the 68th Annual Meeting of the American Association of Nurse Anesthetists; and, "Assessment of the Battery Life of Portable Ventilators," and "A Laboratory Evaluation of an Ultra-Thin Wall Neonatal Endotracheal Tube," were both presented at the 47th International Respiratory Congress in San Antonio, Texas. He was also the invited guest editor for an issue of Respiratory Care Clinics of North America scheduled for publication in the Spring of 2002. Lieutenant Colonel Austin graduated from the Air War College, the senior service school of the United States Air Force.

Major Lisa Petty, CRNA, AN, USN, Assistant Professor, USU GSN Department of Nurse Anesthesia, was named as an invited reviewer of the United States Army's Long Term Health Education and Training Guidelines. Major Petty was also recognized with the Joint Service Achievement Medal for her heroic efforts in evacuating and managing the residents of a local nursing home during a fire (see Section III, pages 238-242, of the Journal for further details).

Mr. John Connelly, CRNA, Training Administrator, USU GSN Department of Nurse Anesthesia, established a secondary simulator training unit with the National Capital Area Simulation Center to provide enhanced simulator training which is recognized as military unique curriculum. He was also instrumental in the donation by Drager of a Narkomed M Field Anesthesia Machine to the National Capital Area Simulation Center. This machine is key to presenting a realistic military anesthetic experience. Mr. Connelly also assisted with the integration of a nurse anesthesia component in the GSN Health Assessment Course, resulting in positive comments from the National League for Nursing Accrediting Commission (NLNAC) and the Commission on Collegiate Nursing Education (CCNE) reviewers during 2001. Mr. Connelly is a member of the Maryland Board of Nursing CRNA Advisory and Peer Review Committee; and, he represented the GSN as the Anesthesia Consultant for the Third World Medical Mission to the Philippines.

Lieutenant Commander Amanda Sierra, CRNA, NC, USN, Nurse Anesthesia Clinical Site Director, National Naval Medical Center, GSN Clinical Site, was recently deployed to the *USS Theodore Roosevelt* as part of a continuing education team, teaching both Basic and Advanced Cardiac Life Support. Lieutenant Commander Sierra attended the United States Navy Management Development Course and is a guest lecturer and leader of a learning session using the anesthesia simulator at Georgetown University.

Captain John Craig, CRNA, MSN, USAF, NC, Associate Clinical Site Director, Wright-Patterson Air Force Base, Ohio, GSN Clinical Site, was named the Company Grade Officer of the Year for the United States Air Force Element, located at Bolling Air Force Base, Washington, D.C.

Department of Nursing Research.

(Included in Section III, pages 238-242 of the Journal)

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Armed Forces Radiobiology Research Institute

Record of Publications

Fiscal Years
1998 - 2001

Book Chapters

1998 (8)

Blakely WF, Weiss JF, Bump EA III (1998) Biological perspectives of radioprotection: Introduction. In: Bump EA, Malaker K (eds) *Radioprotectors: Chemical, Biological, and Clinical Perspectives.* Boca Raton, FL: CRC Press, 187-196

Bogo V, Kumar KS, Baxter S, Hogan JB, Palazzolo D, Landauer MR, Clark EP, Harris AH (1997) Effects of eicosanoid radioprotectors on rat motor performance. In: Honn KV, Nigam S, Marnett LJ (eds) *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury.* New York: Plenum, 805-810

Kandasamy SB (1997) Interleukin, radiation, and thermoregulation. In: Honn KV, Nigam S, Marnett LJ (eds) *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury.* New York: Plenum, 819-823

Kumar KS, Srinivasan V, Palazzolo D, Kendrick JM, Clark EP (1997) Synergistic protection of irradiated mice by a combination of iloprost and misoprostol. In: Honn KV, Nigam S, Marnett LJ (eds) *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury.* New York: Plenum, 831-839

Landauer MR, Weiss JF, Gunter-Smith PJ, Benson KA, Blair MD, Hogan JB, Hanson WR (1997) Behavioral and radioprotective effects of misoprostol in adrenalectomized mice. In: Honn KV, Nigam S, Marnett LJ (eds) *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury.* New York: Plenum, 799-804

Miller AC, Ainsworth EJ, Lui L, Seed TM (1998) Oncogenes as predictive biomarkers for low dose radiation carcinogenesis: Potential application for risk assessment. In: *Cancer Detection and Prevention* Volume 22/Supplement 1, S140-141

Ramakrishnan N, Kalinich JF, McClain DE (1998) Radiation-induced apoptosis in lymphoid cells: Induction, prevention, and molecular mechanisms. In: Bump EA, Malaker K (eds) *Radioprotectors: Chemical, Biological, and Clinical Perspectives*. Washington, DC: CRC Press, 253-273

Weiss JF, Landauer MR, Hogan JB, Gunter-Smith PJ, Benson KA, Neta R, Hanson WR (1997) Modification of radiation-induced gastrointestinal and hematopoietic injury in mice by combinations of agents: Effects of indomethacin and caffeine. In: Honn KV, Nigam S, Marnett LJ (eds) *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury.* New York: Plenum, 865-872

1999 (1)

Brook I, Elliott TB, Ledney GD (1999) Infection after ionizing radiation. In: Zak O, Sande M (eds) *Handbook of Animal Models of Infection.* London: Academic Press, 151-161

2001 (3)

Blakely WF, Prasanna PGS, Miller AC, Director AE, Lofts RS, Loats H, Kolanko CJ. Development of rapid biodosimetry capability: Use of cytogenetic and molecular biomarkers. In: *Proceedings of the*

International Conference on Diagnosis and Treatment of Radiation Injury. Rotterdam, NL: World Scientific (in press)

Cockerham LG, Walden Jr TL, Landauer MR, Dallas CE, Mickley Jr GA. Ionizing Radiation. In: Hayes AW (ed) *Principles and Methods of Toxicology*, 4th edition. Philadelphia: Taylor & Francis (in press)

Seed TM, Miller A, Fritz TE. Experimental studies on late effects of radiation exposure. In: *Proceedings of Diagnosis and Treatment of Radiation.Injury*. Rotterdam, NL: World Scientific (in press)

Journal Supplements

2001 (2)

Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Journal Articles

1998 (10)

Anderson KM, Seed TM, Alrefai W, Ou D, Harris JE (1998) NTBN, a free radical spin trap induces programmed cell death in human pancreatic cancer (Panc-1) cells. *Anticancer Research* 18:3213-3222

Director AE, Tucker JD, Ramsey MJ, Nath J (1998) Chronic ingestion of clastogens by mice and the frequency of chromosome aberrations. *Environmental and Molecular Mutagenesis* 32:139-147

Herzig TC (1997) Career opportunities in the military: An alternative to traditional academic service. *The Physiologist* 40(6):309-311

Kandasamy SB (1998) Effect of Bay K 8644, calcimycin, and phorbol ester on radiation-induced decreases in the release of norepinephrine in the hippocampus in rats. *Radiation Research* 149:277-283

Kandasamy SB (1998) Effect of ionizing radiation on the release of cholecystokinin in the hypothalamus of the rat. *Radiation Research* 150:298-303

Kandasamy SB (1998) Possible involvement of tumor necrosis factor alpha in radiation-induced hyperthermia in rats. *Radiation Research* 149:27-31

Miller AC, Blakely WF, Livengood D, Whittaker T, Xu J, Ejnik JW, Hamilton MM, Parlette E, St John T, Gerstenberg HM, Hsu H (1998) Transformation of human osteoblast cells to the tumorigenic phenotype by depleted uranium-uranyl chloride. *Environmental Health Perspectives* 106:465-471

Miller AC, Fuciarelli AF, Jackson WE, Ejnik JW, Emond C, Strocko S, Hogan J, Page N, Pellmar T (1998) Urinary and serum mutagenicity studies with rats implanted with depleted uranium or tantalum pellets. *Mutagenesis* 13:643-648

Ramakrishnan N, Chen R, McClain DE, Bunger R (1998) Pyruvate prev ents hydrogen peroxide-induced apoptosis. *Free Radical Research* 29:283-295

Swenberg CE, Vaishnav YN, Bin LI, Tsao H, Mao B, Geacintov NE (1997) Single-strand breaks in oligodeoxyribonucleotides induced by fission neutrons and gamma radiation measured by gel electrophoresis: Protective effects of aminothiols. *Journal of Radiation Research* 38:241-254

1999 (16)

Anderson KM, Seed TM, Ou D, Harris JE (1999) Free radicals and reactive oxygen species in programmed cell death. *Medical Hypotheses* 52:451-463

Hsu H, Miller AC, Liu L, Wang T (1999) Chemoprevention of aflatoxin b1-induced carcinogenesis by phenyl fatty acids in rat liver. *Cancer Letters* 55(12):44-49

Kandasamy SB (1999) Gamma radiation and release of norepinephrine in the hippocampus. *Advances in Experimental Medicine and Biology* 469:655-9

Kiang JG, McClain DE (1999) Nω-nitro-L-arginine decreases resting cytosolic calcium and enhances heat stress-induced increase in cytosolic calcium in human colon carcinoma T84 cells. *Chinese Journal of Physiology* 42:1-8

King GL, Rabin BM, Weatherspoon JK (1999) Serotonin type-three (5-HT_3) receptor antagonists ameliorate emesis produced by neutron or photon irradiation in the ferret. *Aviation, Space, and Environmental Medicine* 70:485-492

Kolanko CJ, Pyle MD, Loats H, Parton J, Blakely WF, Nath J (1999) Fast *in situ* hybridization and immunoenzymatic color pigment detection of mouse bone marrow micronucleus. *Biotechnic and Histochemistry* 74(3):111-115

McKinney LC, Aquilla EM, Coffin D, Wink DA, Vodovotz Y (1998) Ionizing radiation potentiates the induction of nitric oxide synthase by IFN-γ and/or LPS in murine macrophage cell lines: Role of TNF-α. *Journal of Leukocyte Biology* 64:459-466

Pellmar TC, Fuciarelli AF, Ejnik JW, Hamilton M, Hogan J, Strocko S, Emond C, Mottaz HM, Landauer MR (1999) Distribution of uranium in rats implanted with depleted uranium pellets. *Toxicological Sciences* 49:29-39

Pellmar TC, Keyser DO, Emery C, Hogan JB (1999) Electrophysiological changes in hippocampal slices isolated from rats embedded with depleted uranium fragments. *Neurotoxicology* 20(5):785-792

Pendergrass Jr JA, Srinivasan V, Clark EP, Kumar KS (1999) Glutathione redox status in the human cell line, A549, following intracellular glutathione depletion and extracellular glutathione addition. *Toxic Substance Mechanisms* 18:11-20

Pikina AP, Smeianov VV, Efimov BA, Bainov NA, Brook I, Reeves G, Korshunov VM (1999) The primary screening of bifidobacteria and lactobacilli strains to develop effective probiotic preparations based on them. *Zh Mikrobiol Epidemiol Immunobiol* 6:34-38

Pogozelski WK, Xapsos MA, Blakely WF (1999) Quantitative assessment of the contribution of clustered damage to DNA double-strand breaks induced by ^{60}Co gamma rays and fission neutrons. *Radiation Research* 151:442-448

Schoneboom BA, Fultz MJ, Miller TH, McKinney LC, Grieder FB (1999) Astrocytes as targets for Venezuelan equine encephalitis virus infection. *Journal of Neurovirology* 5(4):342-354

Vaishnav JY, Swenberg CE, Spotheim-Maurizot M, Charlier M, Vaishnav YN (1999) Conformational changes in DNA as a mechanism of protection against ionizing radiation. *Trends in Photochemistry and Photobiology* 6:29-42

Vijayalaxmi, Meltz ML, Reiter RJ, Herman TS, Kumar KS (1999) Melatonin and protection from whole-body irradiation: Survival studies in mice. *Mutation Research* 425:21-27

Vodovotz Y, Coffin D, DeLuca AM, McKinney L, Cook JA, Wink D, Mitchell JB (1999) Induction of nitric oxide production in infiltrating leukocytes following *in vivo* irradiation of tumor-bearing mice. *Radiation Oncology Investigations* 7(2):86-97

2000 (16)

Chang CM, Elliott TB, Dobson ME, Jackson WE, Ledney GD (2000) Ionizing radiation and bacterial challenge alter splenic cytokine gene expression. *Journal of Radiation Research* 41:259-277

Choe CH, Bouhaouala SS, Brook I, Elliott TB, Knudson GB (2000) *In vitro* development of resistance to ofloxacin and doxycycline in *Bacillus anthracis* Sterne. *Antimicrobial Agents and Chemotherapy* 44(6):1766

Ejnik JW, Carmichael AJ, Hamilton MM, McDiarmid M, Squibb K, Boyd P, Tardiff W (2000) Determination of the isotopic composition of uranium in urine by inductively coupled plasma mass spectrometry. *Health Physics* 78:143-146

Ejnik JW, Hamilton MM, Adams PR, Carmichael AJ (2000) Optimal sample preparation conditions for the determination of uranium in biological samples by kinetic phosphorescence analysis (KPA). *Journal of Pharmaceutical and Biomedical Analysis* 24(2):227-235

Hodge SJ, Ejnik JW, Squibb KS, McDiarmid MA, Anderson LD, Morris ER (2000) Concentration and isotopic composition of uranium in blood, urine, and semen. *Metal Ions* 6:322-324

Kalinich JF, Ramakrishnan N, McClain DE (2000) A procedure for the rapid detection of depleted uranium in metal shrapnel fragments. *Military Medicine* 165:626-629

Kalinich JF, Ramakrishnan R, McClain DE, Ramakrishnan N (2000) 4-Hydroxynonenal, an end-product of lipid peroxidation, induces apoptosis in human leukemic T- and B-cell lines. *Free Radical Research* 33:349-358

Kandasamy SB (2000) Possible involvement of L-type voltage-gated calcium channels in release of dopamine in the striatum of irradiated rats. *Radiation Research* 154(1):39-43

Kolanko CJ, Pyle MD, Nath J, Prasanna PG, Loats H, Blakely WF (2000) *In situ* detection of a PCR-synthesized human pancentromeric DNA hybridation probe by color pigment immunostaining: Applicaton for dicentric assay automation. *Biotechnic and Histochemistry* 75(2):91-98

Ledney GD, Elliott TB, Harding RA, Wyant CE, Jackson WE, Fisher R, Landauer MR (2000) WR-151327 increases resistance to *Klebsiella pneumoniae* infection in mixed-field gamma-photon-irradiated mice. *International Journal of Radiation Biology* 76:261-271

McDiarmid MA, Keogh JP, Hooper FJ, McPhaul K, Squibb K, Kane R, DiPino R, Kabat M, Kaup B, Anderson L, Hoover D, Brown L, Hamilton M, Jacobson-Kram D, Burrows B, Walsh M (2000) Health effects of depleted uranium on exposed Gulf War veterans. *Environmental Research,* Section A 82(2):168-180

McKinney LC, Aquilla EM, Coffin D, Wink DA, Vodovotz Y (2000) Ionizing radiation potentiates the induction of nitric oxide synthase by interferon-gamma and/or lipopolysaccharide in murine macrophage cell lines: Role of tumor necrosis factor-alpha. *Annals of the New York Academy of Sciences* 899:61-68

Miller AC, Xu J, Stewart M, Emond C, Hodge S, Mattews C, Kalinich J, McClain D (2000) Potential health effects of the heavy metals, depleted uranium and tungsten, used in armor-piercing munitions: Comparison of neoplastic transformation, mutagenicity, genomic instability, and oncogensis. *Metal Ions* 6:209-211

Prasanna PGS, Escalada ND, Blakely WF (2000) Induction of premature chromosome condensation by a phosphatase inhibitor and a protein kinase in unstimulated human peripheral blood lymphocytes: A simple and rapid technique to study chromosome aberrations using specific whole-chromosome DNA hybridization probes for biological dosimetry. *Mutation Research* 466:131-141

Weiss JF, Landauer MR (2000) Radioprotection by antioxidants. *Annals of the New York Academy of Sciences* 899:44-60

Whitnall MH, Elliott TB, Harding RA, Inal CE, Landauer MR, Wilhelmsen CL, McKinney L, Miner VL, Jackson III WE, Loria RM, Ledney GD, Seed TM (2000) Androstenediol stimulates myelopoiesis and enhances resistance to infection in gamma-irradiated mice. *International Journal of Immunopharmacology* 22:1-14

2001 (35)

Blakely WF, Brooks AL, Lofts RS, Van der Schans GP, Voisin P. Overview of low-level radiation exposure assessment – biodosimetry. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Blakely WF, Miller AC, Luo L, Lukas J, Hornby ZD, Hamel CJC, Nelson JT, Escalada ND, Prasanna PGS. Nucleic acid molecular biomarkers for diagnostic biodosimetry applications: Use of the fluorogenic 5'-nuclease polymerase chain reaction assay. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Brook I. Calm under pressure and fear under fire: Personal experience of a medical officer. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Brook I, Elliott TB, Harding RA, Bouhaouala SS, Peacock SJ, Ledney GD, Knudson GB. Susceptibility of irradiated mice to *B. anthracis* Sterne intratracheal route of infection. *Journal of Medical Microbiology* (in press)

Director-Myska AE, Pogozelski WK, Lofts RS, Prasanna PGS, Hamel CJ, Blakely WF (2001) Quantitative plasmid mixture analysis using the fluorogenic 5′-nuclease polymerase chain reaction assay.

Environmental and Molecular Mutagenesis 37(2):147-154

Elliott TB, Brook I, Harding RA, Bouhaouala SS, Peacock SJ, Knudson GB. *Bacillus anthracis* infection in irradiated mice: Susceptibility, protection, and therapy. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Hodge SJ, Ejnik JW, Squibb KS, McDiarmid MA, Anderson LD, Morris ER, Landauer MR, McClain DE. Detection of depleted uranium in biological samples from Gulf War Veterans. *Military Medicine* (in press)

Knudson GB. NBC training in the U.S. Army Reserves: Mitigating psychological consequences of weapons of mass destruction. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Knudson GB, Elliott TB, Brook I, Shoemaker MO, Pastel RH, Lowy RJ, King GL, Herzig TC, Landauer MR, Wilson SA, Peacock SJ, Bouhaouala SS, Jackson III WE, Economos D, Miller AC, Ledney GD. NBC combined injuries and countermeasures on the battlefield. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Kumar KS, Srinivasan V, Toles R, Jobe L, Seed TM. Nutritional approaches to radioprotection: Vitamin E. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

LaBarre D, Lowy RJ. Improvements in methods for calculating virus titer estimates from TCID50 and plaque assays. *Journal of Virological Methods* (in press)

Landauer MR. Radiation-induced performance decrement. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Landauer MR, Castro CA, Benson KA, Hogan JB, Weiss JF (2001) Radioprotective and locomotor responses of mice treated with nimodipine alone and in combination with WR-151327. *Journal of Applied Toxicology* 21:25-31

Landauer MR, Castro CA, Benson KA, Hogan JB, Weiss JF. Radioprotective and behavioral effects of nimodipine alone and in combination with WR-151327. *Journal of Applied Toxicology* (in press)

Landauer MR, Elliott TB, King GL, Bouhaouala SS, Wilhelmsen CL, Ferrell JL, Wang PS, Chap AD, Knudson GB. Performance decrement after combined exposure to ionizing radiation and *Shigella sonnei.* In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Landauer MR, Young RW, Hawley AL. Physiological and psychological impact of low-level radiation: Session summary. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Lowy RJ, Aquilla EM, Parks SJ, LaBarre DD. Survival of host defense cells post combined radiation and virus exposure. In: Proceedings of the International Conference on Low-Level Radiation Injury and

Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

McClain DE, Benson KA, Dalton TK, Ejnik JW, Emond CA, Hodge SJ, Kalinich JF, Landauer MR, Livengood DR, Miller AC, Pellmar TC, Stewart MD, Villa V, Xu J. Health effects of embedded depleted uranium. *Military Medicine* (in press)

McClain DE, Benson KA, Dalton TK, Ejnik JW, Emond CA, Hodge SJ, Kalinich JF, Landauer MR, Miller AC, Pellmar TC, Stewart MD, Villa V, Xu J. Biological effects of embedded depleted uranium (DU): A summary of the Armed Forces Radiobiology Research Institute. *Science of the Total Environment* (in press)

McKinney LC, Parks SJ, Lowy RJ. Radiation and virus effects on macrophage production of nitric oxide and TNF-alpha. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Miller AC, Ainsworth EJ, Seed TM, Wang TJ, Lui L. Development of chemopreventive strategies for radiation-induced cancer: Targeting proton- or cobalt-induced genetic alterations. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Miller AC, Mog S, McKinney L, Lei L, Allen J, Xu J, Page N (2001) Neoplastic transformation of human osteoblast cells to the tumorigenic phenotype by heavy metal-tungsten alloy particles: Induction of genotoxic effects. *Carcinogenesis* 22:115-125

Miller AC, Xu J, Stewart M, McClain D (2001) Suppression of depleted uranium-induced neoplastic transformation of human cells by the phenyl fatty acid, phenyl acetate: Chemoprevention by targeting the p21RAS protein pathway. *Radiation Research* 155:163-170

Mulvaney JM, LaBarre D, Pastel RH, Landauer MR. Willingness to pay for defense against weapons of mass destruction. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Pastel RH. Collective behaviors: Mass panic and outbreaks of multiple unexplained symptoms. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Pastel RH. Radiophobia: Long-term psychological consequences of Chernobyl. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Pastel RH, Mulvaney JM. Fear of radiation in U.S. military medical personnel. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Prasanna PGS, Hamel CJC, Escalada ND, Duffy KL, Blakely WF. Biological dosimetry using interphase human peripheral blood lymphocytes. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Seed TM, Fritz TE, Tolle DV, Jackson WE. Hematopoietic responses under protracted exposures to low daily dose gamma irradiation. *Advances in Space Research* (in press)

Seed TM, Inal C, Deen J, Dobson M, Ghose S, Hilyard E, Tole R, Fritz TE. Accommodative responses to chronic irradiation: effect of dose, dose-rate, and pharmacologic response modifiers. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Shoemaker MO, Tammariello R, Crise B, Bouhaouala S, Knudson G, Jackson W, Ludwig G, Smith JF. Combined effects of VEE IIIA virus and gamma irradiation in mice. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Sine RC, Levine IH, Jackson WE, Hawley AL, Prasanna PGS, Grace MB, Goans RE, Greenhill RC, Blakely WF. Biodosimetry Assessment Tool: A postexposure software application for management of radiation accidents. In: Proceedings of the Conference on the Operational Impact of Psychological Casualties from Weapons of Mass Destruction, Bethesda, MD, July 25-27, 2000. *Military Medicine* (in press)

Whitnall MH, Elliott TB, Landauer MR, Jackson III WE, Wilhelmsen CL, McKinney L, Kumar KS, Srinivasan V, Ledney GD, Seed TM. *In vivo* protection against gamma irradiation with 5-androstenediol. In: *Experimental Biology and Medicine* (in press)

Whitnall MH, Elliott TB, Landauer MR, Wilhelmsen CL, McKinney L, Kumar KS, Srinivasan V, Ledney GD, Seed TM. Protection against gamma-irradiation with 5-androstenediol. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

Young RW, Landauer M. The psychological consequences of military operations in low-level radiation environments. In: Proceedings of the International Conference on Low-Level Radiation Injury and Medical Countermeasures, Bethesda, MD, November 8-10, 1999. *Military Medicine* (in press)

2001 submitted (9)

Brook I, Elliott TB, Ledney GD, Knudson GB. Management of postirradiation sepsis (submitted)

Lowy RJ, LaBarre D. Comparison of gamma and neutron radiation inactivation of influenza A virus. *Antiviral Research* (submitted)

Pendergrass Jr JA, Loss C, Srinivasan V, Kumar KS, Seed TM. A peer-validated HPLC/EC method for quantifying WR-1065 and WR-33278 in mouse whole blood after implantation of a biodegradable amifostine (WR-2721). Method validation in progress by peer lab: W.A. Kleinman, Ph.D., Division of Nutritional Carcinogenesis, American Health Foundation, Valhalla, NY (submitted)

Pryor HI, Brook I, Elliott TB, Thakar JH, Knudson GB. Resistance of *Bacillus anthracis* Sterne to doxycycline and quinolones *in vitro*. *Journal of Antimicrobial Agents and Chemotherapy* (submitted)

Seed TM, Fritz TE, Tolle DV, Jackson WE. Hematopoietic responses under protracted exposures to low daily dose gamma irradiation. *Advances in Space Research* (submitted)

St. John T, Miller A, Pitcher C, Vavrina G, Bhatt R, Gerstenberg H. Microdosimetry of alpha particles for *in vitro* human cell transformation studies. *Health Physics* (submitted)

Torres BA, Schwartz RB, Boswell E, Bhatt RC, Moscovitch M. Angular dependence of dose equivalent response of an albedo neutron dosemeter. *Radiation Protection Dosimetry* (submitted)

Vodovotz Y, Mitchell JB, Lucia MS, McKinney LC, Kollum M, Barcellos-Hoff MH, Waksman R. Modulation of cytokines by radiation: Possible roles in restenosis. *Cardiovascular Radiation Medicine* (submitted)

Whitnall MH, Inal CE, Jackson III WE, Miner VL, Villa V, Seed TM. Cellular corrrelates of protection against gamma irradiation with 5-androstenediol. *Radiation Research* (submitted)

Reports

1998 (8)

Chumak VV, Likhtarev IA, Sholom SS, Pasalskaya LF, Pavlenko YV (1998) Retrospective Reconstruction of Radiation Doses of Chernobyl Liquidators by Electron Paramagnetic Resonance. Contract Report 97-2. Bethesda, MD: Armed Forces Radiobiology Research Institute

Grachev SA, Sverdlov AG (1998) Chemical Protection Against X-Ray, Gamma, and Neutron Radiation. Contract Report 97-1. Bethesda, MD: Armed Forces Radiobiology Research Institute

Knudson GB, Lowy RJ (1998) Effectiveness of Ionizing Radiation in Neutralizing Bacterial Cells and Viruses that Simulate BW Agents. USAF Technical Report, Agent Defeat Weapon Program (official use only)

Kossenko MM, Nikolayenko LA, Yepifanova SB, Ostroumova YV (1998) Chronic Radiation Sickness Among Techa Riverside Residents. Contract Report 98-1. Bethesda, MD: Armed Forces Radiobiology Research Institute

Livengood DR (ed) (1998) Health Effects of Embedded Depleted Uranium Fragments. Special Publication 98-3. Bethesda, MD: Armed Forces Radiobiology Research Institute

Pellmar TC, Hogan JB, Benson KA, Landauer MR (1998) Toxicological Evaluation of Depleted Uranium in Rats: Six-Month Evaluation Point. Special Publication 98-1. Bethesda, MD: Armed Forces Radiobiology Research Institute

Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) (1998) Proceedings: Triage of Irradiated Personnel. Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute

Ross WM, van der Schans GP, Dhermain J, Peter RU, MacVittie TJ, Seed TM (eds) (1998) Proceedings of the Workshop on Assessment, Prophylaxis, and Treatment of Ionizing Radiation Injury in Nuclear Environments. Technical Proceedings AC/243 (Panel 8) TP/16. Brussels, Belgium: NATO Headquarters (official use only)

2000 (1)

Jarrett DG (1999) Medical Management of Radiological Casualties Handbook, First Edition. Special Publication 99-2. Bethesda, MD, Armed Forces Radiobiology Research Institute.

2001 submitted (2)

Pastel RH, Kahles G, Chiang M-J. The medical and psychological consequences of radiation dispersal devices. Technical Report. Bethesda, MD: Armed Forces Radiobiology Research Institute (submitted)

Prasanna PGS, Loats H, Gerstenberg HM, Torres BA, Shehata CW, Duffy KL, Floura RS, Khusen AW, Jackson We, Blakely WF. AFRRI's gamma-ray and fission-neutron calibration curves for the lymphocyte dicentric assay: Application of a metaphase finder system. Special Publication. Bethesda, MD: Armed Forces Radiobiology Research Institute (submitted)

Report Chapters

1998 (19)

Benson KA (1998) Fetal development effects. In: Livengood Dr (ed) Health Effects of Embedded Depleted Uranium Fragments. Special Publication 98-3. Bethesda, MD: Armed Forces Radiobiology Research Institute, 17-21

Blakely WF, Loats H, Prasanna PGS, Gribben SM, Roberge TD, Lloyd DG, Francis DE, Kolanko CJ, Shehata CW, Floura RS, Duffy KL, Pyle MD (1998) Automation of the dicentric assay. In: Ross WM, van der Schans GP, Dhermain J, Peter RU, MacVittie TJ, Seed TM (eds) Proceedings of the Workshop on Assessment, Prophylaxis, and Treatment of Ionizing Radiation Injury in Nuclear Environments. Technical Proceedings AC/243 (Panel 8) TP/16. Brussels, Belgium: NATO Headquarters, 6.1-6.21 (official use only)

Blakely WF, Seed TM, Prasanna PGS, Carmichael AJ, Ramakrishnan N, Schauer DA, Greenstock CL. (1998) Summary of Session IV – Forward-Field Bioindicators for Dose Assessment: Possible Alternatives. In: Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) Proceedings: Triage of Irradiated Personnel. Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute, 21-26

Herzig TC, Hively BE (1998) Blood pressure and mesenteric blood flow changes resulting from pyridostigmine pretreatment and radiation exposure. In: Proceedings of the 1998 Medical Defense Bioscience Review. Aberdeen Proving Ground, MD: Institute of Chemical Defense

Jarrett DG (1998) Summary of Session I – Background. In: Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) Proceedings: Triage of Irradiated Personnel. Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute, 1-5

Kalinich J, Ramakrishnan N, McClain D (1998) Depleted uranium-induced immunotoxicity. In: Livengood Dr (ed) Health Effects of Embedded Depleted Uranium Fragments. Special Publication 98-3. Bethesda , MD: Armed Forces Radiobiology Research Institute, 15-16

King GL (1998) Summary of Session III – Predicting the Effects of Multiple Radiation Exposures. In: Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) *Proceedings: Triage of Irradiated Personnel.* Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute, 15-19

Kneisler TB, McBride SA, Landauer MR, Lin L, Strocko SM, Pellmar TC (1998) Interaction of gamma radiation and chronic exposure to pyridostigmine in the rat. In: Berg DA (ed) *Proceedings of the 1997 ERDEC Scientific Conference on Chemical and Biological Defense Research.* Aberdeen Proving Ground, MD: Edgewood Research, Development, and Engineering Center, 567-573

Knudson GB, Jarrett DP, Director AE, Vaishnav YN, Prasanna PGS, Blakely WF, Loats H, Smith WJ (1998) Sister chromatid exchange assay as a biomarker for exposure to chemical warfare agents. In: *Summary Digest: 21st Army Science Conference.* Office of the Assistant Secretary of the Army, 201-202 (official use only)

Kolanko CJ, Prasanna PGS, Nath J, Blakely WF (1998) PCR synthesis of a human pancentromeric DNA hybridization probe and detection of *in situ* probe hybridization using color pigment/immunostaining. In:

1995 Workshop on Assessment, Prophylaxis, and Treatment of Ionizing Radiation Injury in Nuclear Environments. Technical Proceedings AC/243 (Panel 8) TP/4. Brussels, Belgium: NATO Headquarters (official use only)

Landauer MR, Castro CA, Benson KA, Hogan JB (1997) Radiation protection and locomotor performance with a combination of a calcium antagonist and a phosphorothioate. In: *Proceedings of the 1996 ERDEC Scientific Conference on Chemical and Biological Defense Research*. ERDEC-SP-048. Aberdeen Proving Ground, MD: Research and Technology Directorate, U.S. Army Chemical and Biological Defense Command, 535-541

Landauer MR, Wang P, Whitnall MH (1998) Effects of dehydroepiandrosterone sulfate on locomotor performance of mice. In: Berg DA (ed) *Proceedings of the 1997 ERDEC Scientific Conference on Chemical and Biological Defense Research*. Research and Technology Directorate, Aberdeen Proving Ground, MD: Edgewood Research, Development, and Engineering Center, 553-558

Livengood DR, (1998) Introduction to the problem. In: Livengood Dr (ed) *Health Effects of Embedded Depleted Uranium Fragments.* Special Publications 98-3. Bethesda, MD: Armed Forces Radiobiology Research Institute, 3-5

Loats HL, Lloyd DG, Blakely WF (1998) Automated Cytogenetic Assays in a Field Situtation: Considerations of Apoptosis and the Halo-Comet Assay. In: Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) *Proceedings: Triage of Irradiated Personnel*. Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute, D-16-D-20

Miller AC (1998) Depleted uranium health effects: transformation, mutagenicty, and carcinogenicity. In: Livengood DR (ed) *Health Effects of Embedded Depleted Uranium Fragments.* Special Publication 98-3. Bethesda, MD: Armed Forces Radiobiology Research Institute, 11-13

Pellmar TC, Hogan JB, Benson KA, Landauer MR, (1998) Depleted uranium distribution and toxicology in a rodent model. In: Livengood DR (ed) *Health Effects of Embedded Depleted Uranium Fragments.* Special Publications 98-3. Bethesda, MD: Armed Forces Radiobiology Research Institute, 7-9

Prasanna PGS, Garner DC, Khusen AW, Loats H, Shehata CW, Gerstenberg HM, Blakely WF (1998) Chromosome aberration analysis for biological dosimetry: A real case scenario of diagnostic service supporting the U.S. Armed Forces. In: Ross WM, van der Schans GP, Dhermain J, Peter RU, MacVittie TJ, Seed TM (eds) *Proceedings of the Workshop on the Assessment, Prophylaxis, and Treatment of Ionizing Radiation Injury in Nuclear Environments*. Technical Proceedings AC/243 (Panel 8) TP/16. Brussels, Belgium: NATO Headquarters, 5.1-5.10 (official use only)

Seed TM (1998) Summary of Session II – Estimation of Exposure Using Blood Markers and Clinical Indicators. In: Reeves GI, Jarrett DG, Seed TM, King GL, Blakely WF (eds) *Proceedings: Triage of Irradiated Personnel*. Special Publication 98-2. Bethesda, MD: Armed Forces Radiobiology Research Institute, 7-13

Vaishnav YN, Knudson GB, Swenberg CE (1998) Inactivation of mustard agent simulants by ionizing radiation. In: Berg DA (ed) *Proceedings of the 1997 ERDEC Scientific Conference on Chemical and Biological Defense Research*. Aberdeen Proving Ground, MD: Edgewood Research, Development, and Engineering Center, 659-669

1999 (2)

Landauer MR, King GL, Ferrell JL, Wang PS, Chap AD, Rios C, Bouhaouala SS, Harding RA, Wilhelmsen CL, Elliott TB (1999) Combined effects of ionizing radiation and *Shigella sonnei* on weight loss and performance decrement. In: Berg DA (ed) *Proceedings of the 1998 ERDEC Scientific Conference on Chemical and Biological Defense Research.* Report number ECBC-SP-004. Aberdeen Proving Ground, MD: Edgewood Chemical and Biological Center, U.S. Army Soldier and Biological Chemical Command, 395-400

Seed TM, Miller AC, Ramakrishnan Fritz TE (1999) Pathological consequences of chronic low daily dose gamma irradiation. In: Sato F, Yamada Y, Onodera J (eds) *Proceedings of International Symposium on Biological Effects of Low Dose Radiation.* Institute for Environmental Sciences, Rokkasho, Aomori, Japan, 63-69

2000 (1)

Sine RC. The Medical Radiobiology Advisory Team (MRAT). In: *Proceedings of the Workshop on International Collaboration for Disaster and Health Crisis Management*, Tokyo, Japan, March 7-12, 2000 (in press)